



LOAD CELL & TORQUE

A Measurement Can Change the World



Customize & High Technology



DACELL
www.dacell.com

www.dacell.com

Company Information

We realize the best corporation in the field of new generation of weighing and measuring products.



**Robot
Torque Sensor**

DACELL is providing ultra-precision load cells and various weighing and measuring products, which can be used in various fields of industries, based on 40 years of experiences in manufacturing of weighing and measuring products and with own superior technologies.

We will exert every efforts to provide customers with total solutions for a field of load cells and as well as advanced weighing and measuring field by developing of high quality products with the international competitiveness.

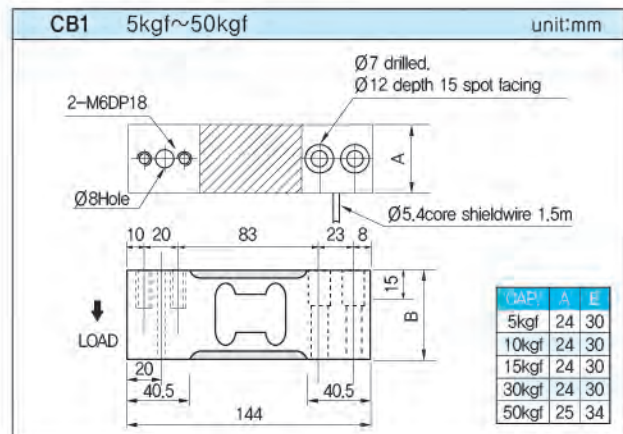
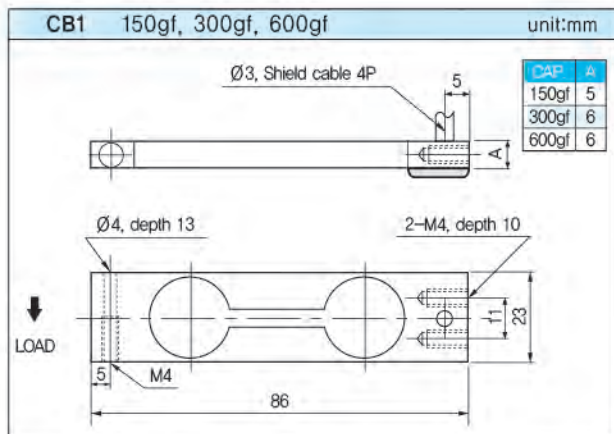
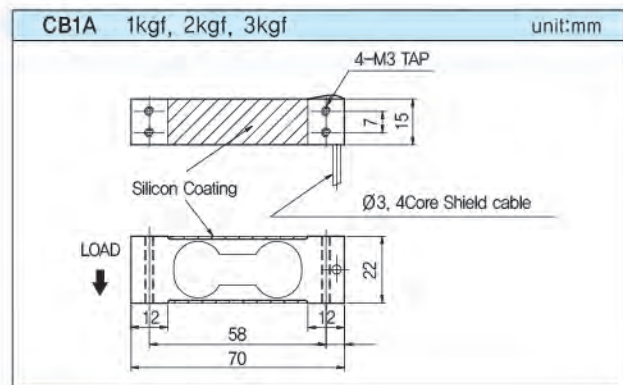
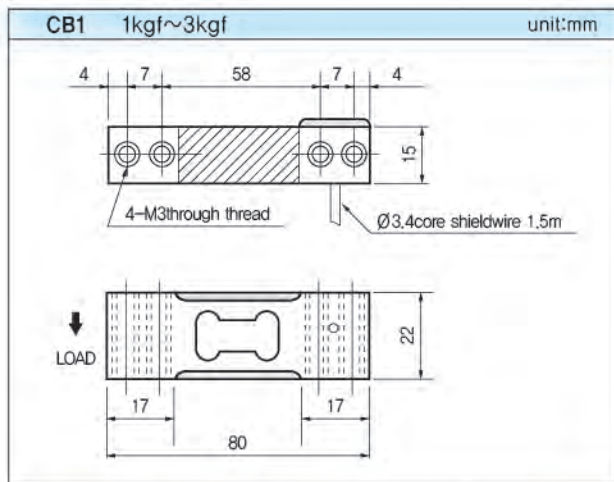
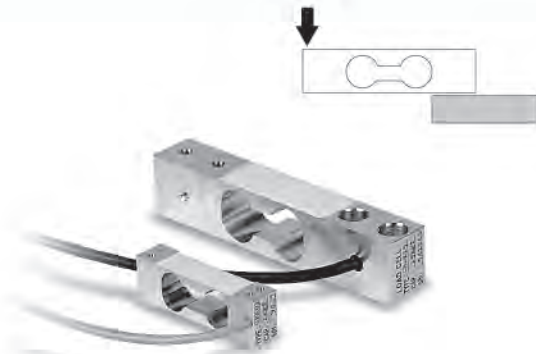


No.	SUBJECT	MODEL	PAGE
1	SINGLE POINT LOAD CELLS	CB1, CB1A / CB2, CB4, CB5, CB6	4-5
2	SINGLE POINT LOAD CELL	CB41 / CB122	6
3	SINGLE POINT LOAD CELL	CBC / CBC25, CBC35	7-8
4	SHEAR BEAM LOAD CELLS	CP, CPC / CP57 / CPS / CPS-Ex	9-11
5	WEIGHING MODULE	CPB32, CPB42, CPB52	12
6	DOUBLE ENDED BEAM LOAD CELL	CT / CTM	13-14
7	COMPRESSION LOAD CELLS	CX / CX77 / CXX	15-17
8	LOW PROFILE COMPRESSION LOAD CELL	CL / CL63	18-19
9	COMPRESSION LOAD CELL	UL12	20
10	HOLLOW TYPE LOAD CELL	CWH	21
11	SLIM HOLLOW TYPE LOAD CELL	CWW / CWW11	22
12	PIN TYPE LOAD CELLS	PL8, PL11C	23
13	COMPRESSION LOAD CELL / WEIGHING MODULE	CM116 / CMI-116	24-25
14	MINIATURE COMPRESSION LOAD CELLS	CMM, CMM2 / CMM92, CMM97	26-27
15	MINIATURE COMPRESSION LOAD CELLS	CM, CM2	28
16	MINIATURE COMPRESSION LOAD CELL	CMM104	29
17	SMALL CAPACITY COMPRESSION & TENSION LOAD CELL	US	29
18	LOW PROFILE COMPRESSION LOAD CELL	UL277	30
19	LOW PROFILE TENSION OR COMPRESSION LOAD CELLS / WEIGHING MODULE	UL	31-32
20	LOW PROFILE TENSION OR COMPRESSION LOAD CELLS / TENSION LOAD CELLS	UL272, TX61 / TX / TS21	33-35
21	COMPRESSION & TENSION LOAD CELL	TX25 / TB25	36
22	UNIVERSAL LOAD CELL	UU / UU2, UU3 / UU74 / UU90	37-39
23	MINIATURE COMPRESSION & TENSION LOAD CELLS	UM, UMA, UMF	40
24	MINIATURE COMPRESSION & TENSION LOAD CELLS	UMM, UMMA, UMMC / UMI	41-42
25	WEB TENSION LOAD CELLS	RTB14, RTB15 / RTB6 / RTB21 / CS262-K200	43-44
26	MULTI COMPONENT LOAD CELL	MC15	45
27	MULTI COMPONENT LOAD CELL (6 AXIS)	MC134-6A	46
28	GEAR SHIFTING LEVER LOAD CELL	CS201 / CS142	47
29	PEDAL EFFORT LOAD CELL	CS285 / CS187	48
30	SHAFT TYPE TORQUE SENSORS / TRANSFORMER METHOD TORQUE SENSORS	TRA / TRB / TRC / TRD / TRD8	50-54
31	FLANGE TYPE ROTARY TORQUE SENSORS	TRE	54
32	SOCKET WRENCH ROTARY TORQUE SENSORS	TRS	55
33	NON-ROTARY TORQUE SENSORS	TCN / TCN15 / TCN16	56-58
34	SOCKET WRENCH ROTARY TORQUE SENSORS	TCN23	59
35	SOCKET WRENCH ROTARY TORQUE SENSORS	TCN129	60
36	DIGITAL TACHOMETER / RPM SENSOR MAGNET TYPE	DN30W / RS-025	61
37	MINI INDICATOR	DN-70	62
38	DIGITAL INDICATOR	DN-10W	63
39	HIGH SPEED DIGITAL INDICATOR	DN-50W	64
40	AC DIGITAL INDICATOR	DN-27W	65
41	HIGH SPEED DIGITAL INDICATOR	DN100	66
42	HIGH SPEED DIGITAL INDICATOR	DN200	67
43	2CH DIGITAL INDICATOR	DN-130L	68
44	2CH DIGITAL INDICATOR	DN-130T, DN-230A	69
45	WEB TENSION INDICATOR (2CH+TOTAL)	DN300	70
46	TOTAL INDICATOR (3 ~ 4CH)	DN330, DN340	71
47	DIGITAL INDICATOR / WEIGHT TRANSMITTER	UWT 6008 / DAT11	72-73
48	DIGITAL WEIGHING INDICATOR	DN500N DN510N	74
49	DIGITAL WEIGHING INDICATOR	DN520N / DN530N	75
50	DIGITAL WEIGHING INDICATOR	DN550N	76
51	REMOTE DISPLAY	LARGE DISPLAY SERIES DA-MR900 SERIES	76
52	DIGITAL INDICATOR	DN-830	77
53	POCKET INDICATOR	PDN-10 / PDN-20	78
54	EXPLOSION PROOF INDICATOR / SUMMING BOX / REMOTE DISPLAY	EXP-410N / EXP-SB4P / EXP900	79
55	OVER LOAD LIMITER	DN9000	80
56	DYNAMIC STRAIN AMPLIFIER	DN-AM100	81
57	DYNAMIC STRAIN AMPLIFIER	DN-AM110	82
58	DYNAMIC STRAIN AMPLIFIER	DN-AM150 / DN-AM210	83
59	DYNAMIC STRAIN AMPLIFIER	DN-AM310 / DN-AM1000	84
60	DIGITAL STRAIN AMPLIFIER	SA-6 / SA-16	85
61	DYNAMIC STRAIN AMPLIFIER	DN-AM120 / DN-AM130	86
62	AC TYPE DYNAMIC AMPLIFIER	DN-ACM200	87
63	LINEAR POTENTIOMETER	LPM	88
64	CABLE SENSOR	CNH	89
65	DIGITAL INDICATOR	DN-20W	90
66	LVDT	DP-S4, DP-10, DP-25	91
67	LVDT INDICATOR	DN25W	92
68	ELECTRONIC MICROMETER	ML-SP / ML-CP-S1-S4	93
69	AC TYPE DYNAMIC AMPLIFIER / WIRELESS LOAD CELL DATA LOGGER	DN-AMP100 / DL-W100	94-95
70	PORTABLE TYPE DATA LOGGER / DYNAMIC DATA LOGGER	DL-H20 / DL-350	96
71	TOUCH TYPE DATA LOGGER	DL-152 / DL-610	97
72	DATA LOGGER LAYOUT / SOFTWARE	LAYOUT / MULTISCAN & MULTILOAD PROGRAM	98
73	DIGITAL PRESSURIZATION GAUGE	CMT / PDN20	99
74	FORCE GAUGE / MINI PRINTER	DN-FGA / YJ350T, YJ350D, YJ320T, YJ350, PT100	100-101
75	SUMMING BOX	SB4P / SB6P / SB42P, SB62P	102
76	LOAD CELL ACCESSORY	BEARING & MOUNTING PLATE	103
77	LOAD CELL ACCESSORY	LOAD BUTTON / ROD END BEARING	104
78	LOAD CELL SERVE EXTENSIVELY		105
79	INSTALLATION OF TORQUE SENSORS		106
80	TECHNICAL DEFINITIONS OF TERMINOLOGY		107

Single Point Load Cells

> Model CB1, CB1A

This strain gage load cell has developed newly as a electronic "Scale" for commercial purpose, with the charastetics of high accuracy and low price. Compared with another mechanical means, this load cell provides small displacement. Due to electronic output, it is easy to treat various treatment.



> SPECIFICATIONS

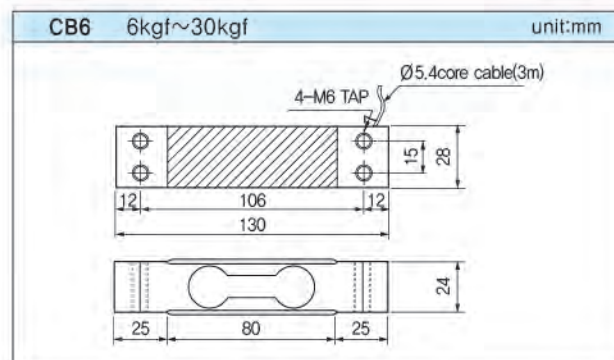
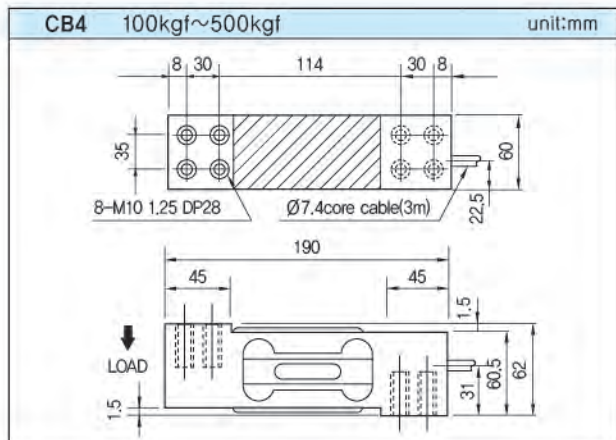
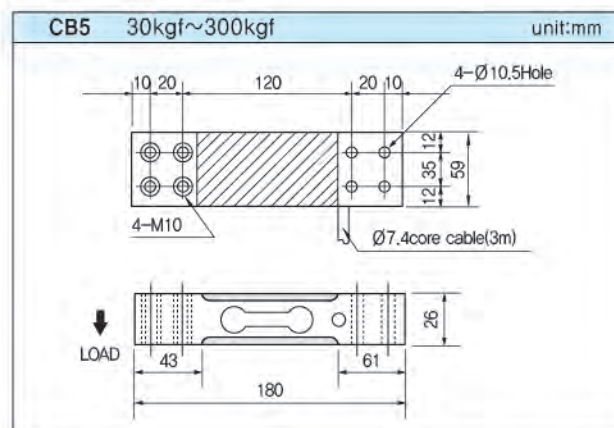
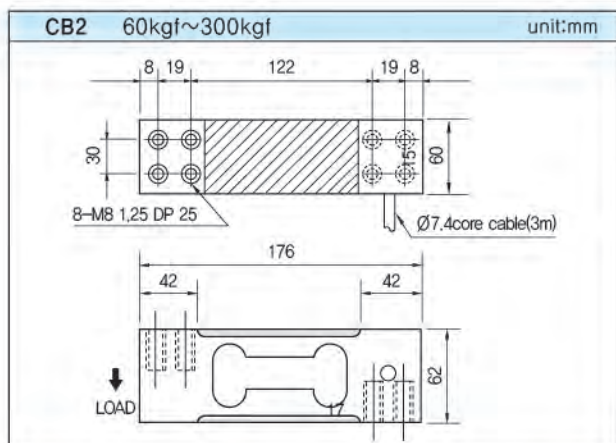
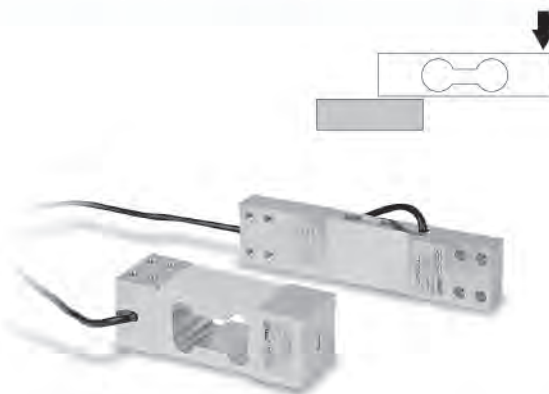
Specifications	Accuracy	Accuracy	Accuracy
Rated capacity(R.C)	150gf, 300gf, 600gf (1.470N, 2.942N, 5.884N)	1, 2, 3kgf (9.807N, 19.61N, 29.42N)	5, 10, 15, 30, 50kgf (49.03N, 98.07N, 147.1N, 294.2N, 490.3N)
Rated output(R.O)	1.2mV/V $\pm 20\%$	1mV/V $\pm 20\%$	1.5mV/V $\pm 20\%$
Nonlinearity	0.02% of R.O.	0.02% of R.O.	0.02% of R.O.
Hysteresis	0.02% of R.O.	0.02% of R.O.	0.02% of R.O.
Repeatability	0.02% of R.O.	0.02% of R.O.	0.02% of R.O.
Creep(20min)	0.03% of R.O.	0.03% of R.O.	0.02% of R.O.
Zero balance	$\pm 5\%$ of R.O.	$\pm 5\%$ of R.O.	$\pm 5\%$ of R.O.
Terminal resistance, input	420 $\pm 30\Omega$	420 $\pm 30\Omega$	420 $\pm 30\Omega$
Terminal resistance, output	350 $\pm 2\Omega$	350 $\pm 2\Omega$	350 $\pm 2\Omega$
Insulation resistance bridge	2000M Ω	2000M Ω	2000M Ω
Temperature range, compensated	0 to +40 $^{\circ}\text{C}$	-10 $^{\circ}\text{C}$ to +50 $^{\circ}\text{C}$	-10 $^{\circ}\text{C}$ to +50 $^{\circ}\text{C}$
Temperature range, safe	-10 to +50 $^{\circ}\text{C}$	-10 $^{\circ}\text{C}$ to +50 $^{\circ}\text{C}$	-10 $^{\circ}\text{C}$ to +50 $^{\circ}\text{C}$
Temperature effect on zero balance	0.03% R.O./10 $^{\circ}\text{C}$	0.03% R.O./10 $^{\circ}\text{C}$	0.03% R.O./10 $^{\circ}\text{C}$
Temperature effect on rated output	0.02% LOAD/10 $^{\circ}\text{C}$	0.02% LOAD/10 $^{\circ}\text{C}$	0.02% LOAD/10 $^{\circ}\text{C}$
Excitation recommended	10V DC	10V DC	10V DC
Safe overload	150% R.C.	150% R.C.	150% R.C.
Cable length	$\varnothing 3$. Core shield cable, 3m	$\varnothing 3$. Core shield cable, 3m	$\varnothing 5$. Core shield cable, 3m
Allowable maximum Platform size	$\varnothing 80$	200 $\times$ 200mm	300 $\times$ 300mm
Weight	200g	300g	400g
Wiring Information	EXC+ : RED, EXC- : White, SIG+ : Black, SIG- : Green		

Specifications are subject to change without notice.

Single Point Load Cells

> Model CB2, CB4, CB5, CB6

This strain gage load cell has developed newly as a electronic "Scale" for commercial purpose, with the charatestics of high accuracy and low price. Compared with another mechanical means, this load cell provides small displacement. Due to electronic output, it is easy to treat various treatments.



>SPECIFICATIONS

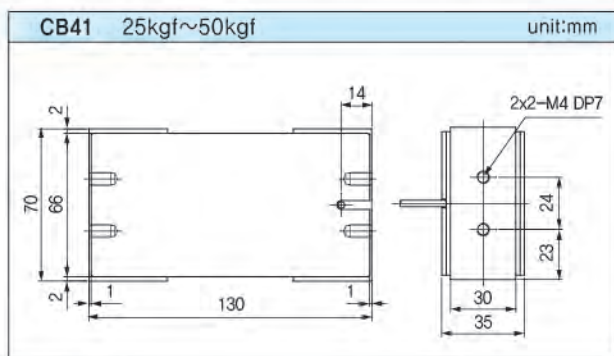
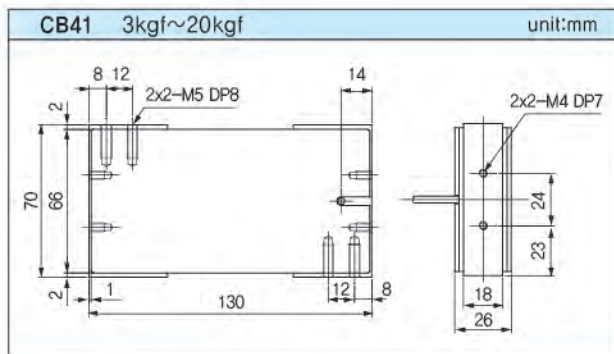
Specifications	Accuracy			
	CB2	CB4	CB5	CB6
Rated capacity(R.C)	60, 100, 150, 250, 300kgf (588.4N, 980.7N, 2,452kN, 2,942kN)	100, 200, 300, 500kgf (2,942kN, 4,903kN)	30, 50, 100, 150, 300kgf (294.2N, 490.3N, 980.7N, 1,471kN, 2,942kN)	6, 10, 15, 25, 30kgf (5.884N, 98.07N, 245.2N, 294.2N)
Rated output(R.O)	2mV/V $\pm$ 10%	2mV/V $\pm$ 10%	1.5mV/V $\pm$ 10%	2mV/V $\pm$ 10%
Nonlinearity	0.02% of R.O.	0.02% of R.O.	0.02% of R.O.	0.02% of R.O.
Hysteresis	0.02% of R.O.	0.02% of R.O.	0.02% of R.O.	0.02% of R.O.
Repeatability	0.02% of R.O.	0.02% of R.O.	0.02% of R.O.	0.02% of R.O.
Creep(20min)	0.03% of R.O.	0.03% of R.O.	0.03% of R.O.	0.03% of R.O.
Zero balance	$\pm$ 5% of R.O.	$\pm$ 5% of R.O.	$\pm$ 5% of R.O.	$\pm$ 5% of R.O.
Terminal resistance, input	420 $\pm$ 20 Ω	420 $\pm$ 20 Ω	420 $\pm$ 20 Ω	420 $\pm$ 20 Ω
Terminal resistance, output	350 $\pm$ 20 Ω	350 $\pm$ 20 Ω	350 $\pm$ 20 Ω	350 $\pm$ 20 Ω
Insulation resistance bridge	2000M Ω	2000M Ω	2000M Ω	2000M Ω
Temperature effect on rated output	0.02% LOAD/10 $^{\circ}$ C	0.02% LOAD/10 $^{\circ}$ C	0.02% LOAD/10 $^{\circ}$ C	0.02% LOAD/10 $^{\circ}$ C
Temperature effect on zero balance	0.05% R.O./10 $^{\circ}$ C	0.05% R.O./10 $^{\circ}$ C	0.05% R.O./10 $^{\circ}$ C	0.05% R.O./10 $^{\circ}$ C
Temperature range, compensated	-10 $^{\circ}$ C to +50 $^{\circ}$ C	-10 $^{\circ}$ C to +50 $^{\circ}$ C	-10 $^{\circ}$ C to +50 $^{\circ}$ C	-10 $^{\circ}$ C to +50 $^{\circ}$ C
Temperature range, safe	-10 $^{\circ}$ C to +50 $^{\circ}$ C	-10 $^{\circ}$ C to +50 $^{\circ}$ C	-10 $^{\circ}$ C to +50 $^{\circ}$ C	-10 $^{\circ}$ C to +50 $^{\circ}$ C
Excitation recommended	10V	10V	10V	10V
Safe overload	150% R.C.	150% R.C.	150% R.C.	150% R.C.
Cable length	$\varnothing$ 7, 4 Core, 3m	$\varnothing$ 7, 4 Core, 3m	$\varnothing$ 7, 4 Core, 3m	$\varnothing$ 5, 4 Core, 3m
Allowable maximum Platform size	400 $\times$ 600mm	450 $\times$ 650mm	400 $\times$ 500mm	300 $\times$ 300mm
Weight(kg)	1.5	1.6	0.9	0.4
Wiring Information	EXC+ : RED, EXC- : White, SIG+ : Black, SIG- : Green			

Specifications are subject to change without notice.

Single Point Load Cell

> Model CB41

Single point load cell
High accuracy and low price.

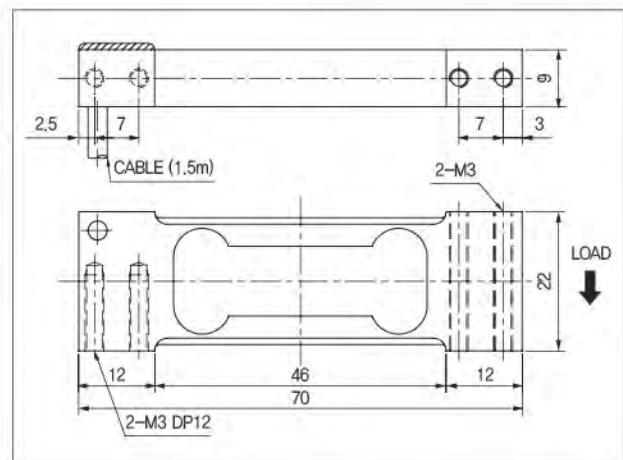
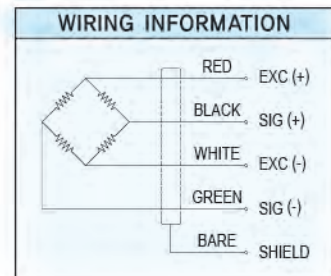
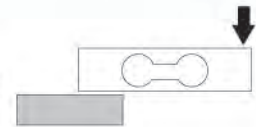


>SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C)	3kgf, 10kgf, 20kgf, 25kgf, 50kgf
Rated output(R.O)	2mV/V $\pm$ 10%
Nonlinearity	0.02% of R.O.
Hysteresis	0.02% of R.O.
Repeatability	0.02% of R.O.
Creep(20min)	0.03% of R.O.
Zero balance	$\pm$ 5% of R.O.
Terminal resistance, input	420 $\pm$ 20 Ω
Terminal resistance, output	350 $\pm$ 2 Ω
Insulation resistance bridge	2000M Ω
Temperature effect on rated output	0.02% LOAD/10 $^{\circ}$ C
Temperature effect on zero balance	0.05% R.O./10 $^{\circ}$ C
Temperature range, compensated	-10 $^{\circ}$ C to +50 $^{\circ}$ C
Temperature range, safe	-10 $^{\circ}$ C to +50 $^{\circ}$ C
Excitation recommended	10V
Safe overload	150% R.C.
Cable length	$\varnothing$ 3 4core cable, 4m

> Model CB122

Miniature single point load cell
high accuracy and low price
Small capacity



>SPECIFICATIONS

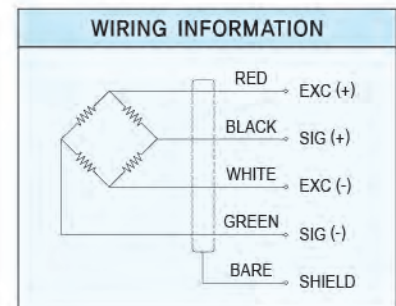
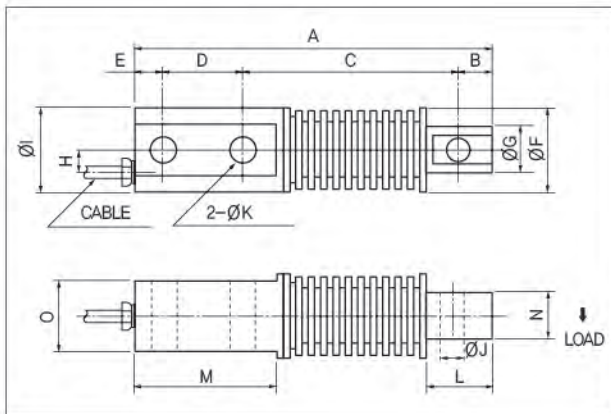
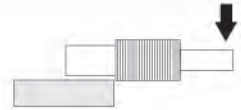
Specifications	Accuracy
Rated capacity(R.C)	200gf, 300gf
Rated output(R.O)	1.2mV/V $\pm$ 10%
Nonlinearity	0.02% of R.O.
Hysteresis	0.02% of R.O.
Repeatability	0.02% of R.O.
Zero balance	$\pm$ 5% of R.O.
Terminal resistance, input	420 $\pm$ 20 Ω
Terminal resistance, output	350 $\pm$ 2 Ω
Insulation resistance bridge	2000M Ω
Temperature effect on rated output	0.02% LOAD/10 $^{\circ}$ C
Temperature effect on zero balance	0.05% R.O./10 $^{\circ}$ C
Temperature range, compensated	0 $^{\circ}$ C to +40 $^{\circ}$ C
Temperature range, safe	-10 $^{\circ}$ C to +50 $^{\circ}$ C
Excitation recommended	10V
Safe overload	150% R.C.
Cable length	$\varnothing$ 3 4core cable, 4m

Specifications are subject to change without notice.

Bending Beam Load Cell

> Model CBC

Stainless steel bellows seal.
Compact, lightweight and easy-to-mount
Protection Class IP67



>SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C)	10, 20, 50, 100, 200kgf, 500kg (98.07N, 196.1N, 490.3N, 980.7N, 4.903kN)
Rated output(R.O)	2mV/V $\pm$ 10%
Nonlinearity	0.02% of R.O.
Hysteresis	0.02% of R.O.
Repeatability	0.02% of R.O.
Zero balance	$\pm$ 5% of R.O.
Temperature effect on rated output	0.02% of LOAD/10°C
Temperature effect on zero balance	0.02% of R.O./10°C
Temperature range, compensated	-10°C to 70°C
Temperature range, safe	-20°C to 80°C
Terminal resistance, input	350 $\pm$ 50Ω
Terminal resistance, output	350 $\pm$ 5Ω
Insulation resistance bridge	2000MΩ
Excitation recommended	10V
Safe overload	150% R.C.
Cable length	Ø5 4core cable, 3m

>DIMENSIONS TABLE

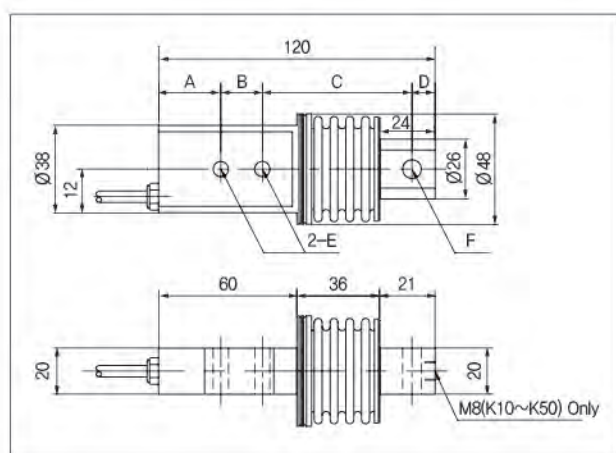
Capacity	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	Weight(kg)
10~100kg (98.1N~980.7N)	130	10	72	35	13	39	20	9	42	8.5	8.5	20	58	17	35	1.0
200~500kg (1.9kN~4.90kN)	200	20	120	45	15	50	29	14	52	12	14	40	80	25	40	1.6

★ Specifications are subject to change without notice.

Bending Beam Load Cell

> Model CBC25

Stainless steel bellows seal.
Compact, lightweight and easy-to-mount



>SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C)	10, 20, 50, 100, 200kgf, 300kg (98.07N ~ 2,940kN)
Rated output(R.O)	2mV/V $\pm$ 0.5%
Nonlinearity	0.05% of R.O.
Hysteresis	0.05% of R.O.
Repeatability	0.03% of R.O.
Zero balance	$\pm$ 1% of R.O.
Temperature effect on rated output	0.02% of LOAD/10°C
Temperature effect on zero balance	0.02% of R.O./10°C
Temperature range, compensated	-10°C to 60°C
Temperature range, safe	-20°C to 80°C
Terminal resistance, input	350 $\pm$ 50 Ω
Terminal resistance, output	350 $\pm$ 5 Ω
Insulation resistance bridge	2000M Ω
Excitation recommended	10V
Safe overload	120% R.C.
Cable length	$\varnothing$ 5 4core cable, 3m

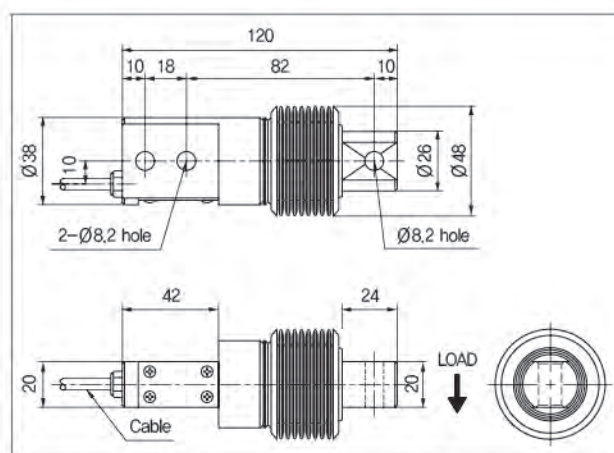
>DIMENSIONS TABLE

unit:mm

Capacity	A	B	C	D	E	F
10kgf, 20kgf, 50kgf	27	18	65	10	6.6	8.1
100kgf, 200kgf, 300kgf	25	20	65	10	8.4	10.1

> Model CBC35

Stainless steel bellows seal.
Compact, lightweight and easy-to-mount



>SPECIFICATIONS

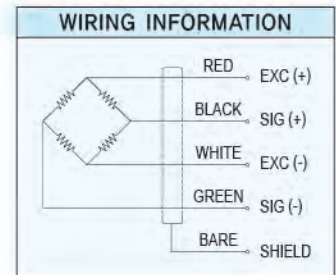
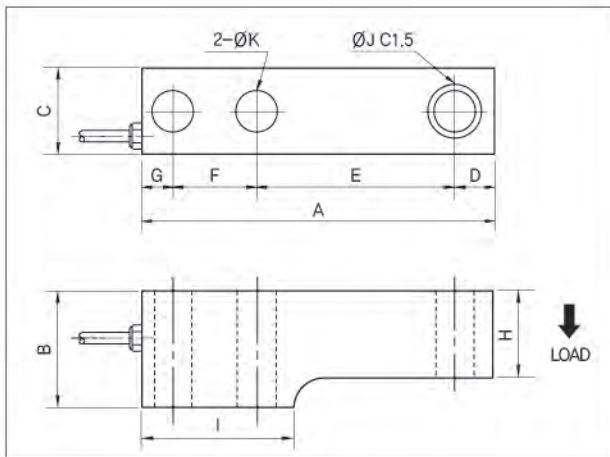
Specifications	Accuracy
Rated capacity(R.C)	10kgf, 20kgf, 50kgf, 100kgf, 200kgf, 300kgf (98.07N ~ 2,940kN)
Rated output(R.O)	2mV/V $\pm$ 0.5%
Nonlinearity	0.05% of R.O.
Hysteresis	0.05% of R.O.
Repeatability	0.03% of R.O.
Zero balance	$\pm$ 1% of R.O.
Temperature effect on rated output	$\pm$ 0.1% of LOAD/10°C
Temperature effect on zero balance	$\pm$ 0.1% of R.O./10°C
Temperature range, compensated	-10°C to 60°C
Temperature range, safe	-20°C to 70°C
Terminal resistance, input	350 $\pm$ 10 Ω
Terminal resistance, output	350 $\pm$ 5 Ω
Insulation resistance bridge	2000M Ω
Excitation recommended	10V
Safe overload	120% R.C.
Cable length	$\varnothing$ 5 4core cable, 3m

◆ Specifications are subject to change without notice.

Shear Beam Load Cells

> Model CP, CPC

A compact and low cost, shear type compression load cell. It is a comparatively low cost shear type transducers with a high accuracy of 0.02% R.O. Platform and Tank scale weighing.
Protection Class IP67 (500kg ~ 12.5t)



> SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C)	50kgf, 100kgf, 150kgf, 300kgf, 500kgf, 1tf, 2tf, 3tf, 5tf, 6tf, 10tf, 12tf (490.3N, 980.7N, 1.471kN, 2.942kN, 4.903kN, 9.807kN, 19.61kN, 29.42kN, 49.03kN, 58.84kN, 98.07kN, 117.7kN)
Rated output(R.O)	2mV/V $\pm$ 0.1%
Nonlinearity	0.02% of R.O.
Hysteresis	0.02% of R.O.
Repeatability	0.02% of R.O.
Creep(20min)	0.03% of R.O.
Zero balance	$\pm$ 5% of R.O.
Temperature effect on rated output	0.02% of LOAD/10°C
Temperature effect on zero balance	0.05% of R.O./10°C
Temperature range, compensated	-10°C to 50°C
Temperature range, safe	-20°C to 80°C
Terminal resistance, input	350 $\pm$ 30 Ω
Terminal resistance, output	350 $\pm$ 30 Ω
Insulation resistance bridge	2000M Ω
Excitation recommended	10V
Safe overload	150% R.C.
Cable length	50kgf~6tf : $\varnothing$ 5 $\pm$ 0.3mm 4core, 3m 10tf~12tf : $\varnothing$ 7 $\pm$ 0.3mm 4core, 3m

Model CPC Thread	unit:mm
500kgf~2tf	
3tf~5tf	
10tf	

> DIMENSIONS TABLE

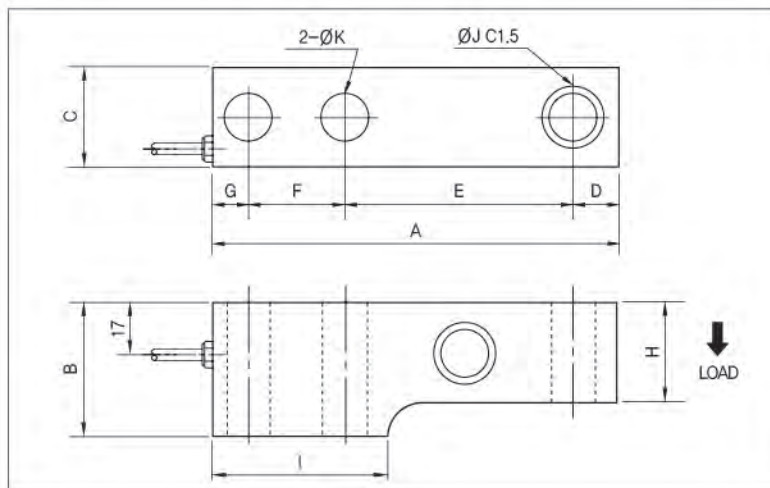
Capacity	A	B	C	D	E	F	G	H	I	$\varnothing$ J	$\varnothing$ K	Weight(kg)
50kgf~300kgf (490.3N~2.942kN)	135	36	26	17	75	25	18	32	58	11.5	11.5	0.5
500kgf~2tf (4.90kN~19.61kN)	135	38	30	17	75	25	18	34	58	13.5	13.5	1.1
3tf~5tf (29.42kN~49.03kN)	170	48	38	20	85	50	15	39	79	18.5	18.5	2.3
6tf (58.84kN)	203	48	50	23	95	62	23	39	110	24.5	24.5	3.5
10tf~12tf (98.07kN)	263	60	60	30	118	90	25	52	143	26	26	6.5

◆ Specifications are subject to change without notice.

Shear Beam Load Cells

> Model CP57

Single ended shear beam load cell
high accuracy platform scales and a variety of process
weighing applications.
Nickel plated Alloy steel



>SPECIFICATIONS

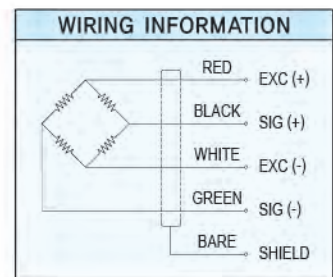
Specifications	Accuracy
Rated capacity(R.C)	500kgf, 1tf, 2tf, 3tf, 5tf, 10tf
Rated output(R.O)	2mV/V $\pm$ 0.1%
Nonlinearity	0.02% of R.O.
Hysteresis	0.02% of R.O.
Repeatability	0.02% of R.O.
Creep(20min)	0.03% of R.O.
Zero balance	$\pm$ 5% of R.O.
Temperature effect on rated output	0.02% of LOAD/10 $^{\circ}$ C
Temperature effect on zero balance	0.05% of R.O./10 $^{\circ}$ C
Temperature range, compensated	-10 $^{\circ}$ C to 50 $^{\circ}$ C
Temperature range, safe	-20 $^{\circ}$ C to 80 $^{\circ}$ C
Terminal resistance, input	350 $\pm$ 30 Ω
Terminal resistance, output	350 $\pm$ 3 Ω
Insulation resistance bridge	2000M Ω
Excitation recommended	10V
Safe overload	150% R.C.
Cable length	$\varnothing$ 5 $\pm$ 0.3mm 4core, 3m

>DIMENSIONS TABLE

Model	Capacity	A	B	C	D	E	F	G	H	I	$\varnothing$ J	$\varnothing$ K	Weight(kg)
CPS	500kgf $\sim$ 2tf (4,903kN $\sim$ 19,61kN)	135	38	30	17	75	25	18	34	58	13.5	13.5	1.1
	3tf $\sim$ 5tf (29,42kN $\sim$ 49,03kN)	170	48	38	20	85	50	15	39	79	18	18.5	2.3
	9tf (88,26kN)	200	52	56	20	95	62	23	44	110	21	24.5	5
	10tf $\sim$ 12tf (98,07kN $\sim$ 117,1kN)	263	60	60	30	118	90	25	52	143	26	26	6.5
CP57	500kgf $\sim$ 2tf (4,90kN $\sim$ 19,61kN)	131	38	30	12.7	76.2	25.4	16.7	34	57	13.5	13.5	1.1
	3tf $\sim$ 5tf (29,42kN $\sim$ 49,03kN)	171	44.5	38	19	95	38	19	38	76.2	20.5	20	2.0
	10tf (98,07kN)	222.3	57.2	50.8	25.4	120.7	50.8	25.4	50.8	108	26.2	26.2	4.5

> Model CPS

- Shear beam loadcell with a high accuracy of 0.03% R.O.
- Platform and Tank scale weighing.
- Protection Class IP67
- Fully welded seal with stainless steel cover for hostile environment applications.
- 17-4PH stainless steel construction for high accuracy.



>SPECIFICATIONS

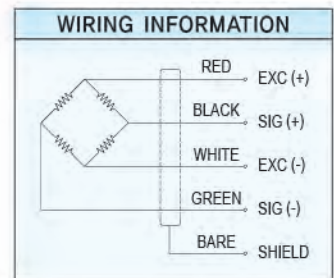
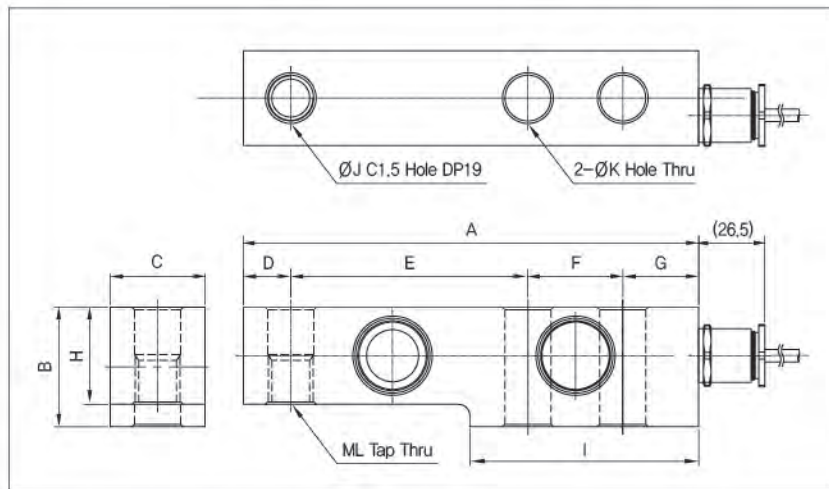
Specifications	Accuracy
Rated capacity(R.C)	500kgf, 1tf, 2tf, 3tf, 5tf, 9tf, 10tf, 12tf
Rated output(R.O)	2mV/V $\pm$ 0.1%
Nonlinearity	0.03% of R.O.
Hysteresis	0.03% of R.O.
Repeatability	0.03% of R.O.
Creep(20min)	0.03% of R.O.
Zero balance	$\pm$ 5% of R.O.
Temperature effect on rated output	0.02% of LOAD/10 $^{\circ}$ C
Temperature effect on zero balance	0.05% of R.O./10 $^{\circ}$ C
Temperature range, compensated	-10 $^{\circ}$ C to 50 $^{\circ}$ C
Temperature range, safe	-20 $^{\circ}$ C to 80 $^{\circ}$ C
Terminal resistance, input	350 $\pm$ 30 Ω
Terminal resistance, output	350 $\pm$ 3 Ω
Insulation resistance bridge	2000M Ω
Excitation recommended	10V
Safe overload	150% R.C.
Cable length	$\varnothing$ 5 $\pm$ 0.3mm 4core, 3m

• Specifications are subject to change without notice.

Explosion Proof / Shear Beam Load cell

> Model CPS-Ex

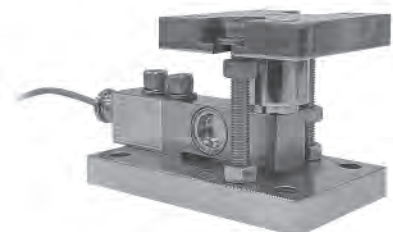
International Explosion Proof Certified Load Cells (IECEEx).
Explosion proof level : Ex db IIC T6 Gb
high-precision grade
Material : Stainless steel



> SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C)	500kgf, 1tf, 2tf, 3tf, 5tf
Rated output(R.O)	2.0mV/V $\pm$ 0.1%
Nonlinearity	0.03% of R.O.
Hysteresis	0.03% of R.O.
Repeatability	0.03% of R.O.
Zero balance	$\pm$ 5% of R.O.
Temperature effect on rated output	0.02% of LOAD/10°C
Temperature effect on zero balance	0.05% of R.O./10°C
Temperature range, compensated	-10°C to 40°C
Temperature range, safe	-20°C to 70°C
Terminal resistance, input	350 $\pm$ 30 Ω
Terminal resistance, output	350 $\pm$ 5 Ω
Insulation resistance bridge	2000M Ω
Excitation recommended	10V
Safe overload	150% R.C.
Cable length	Ø7 4core cable, 3m

> Weighing Module CPB52-Ex



- Option : 1. Steel
- 2. Stainless steel

> DIMENSIONS TABLE

unit:mm

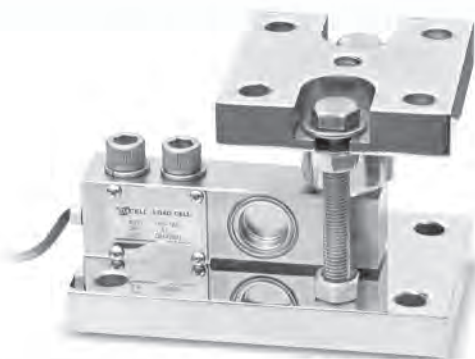
Capacity	A	B	C	D	E	F	G	H	I	ØJ	ØK	L
500kgf~2tf (4,903kN~19,61kN)	143	37	30	12.7	76.1	25.4	28.8	33	65.3	13.5	13.5	12X1,75P
3tf (29,42kN)	183	48	38	19.1	95.3	38.1	30.5	39	92.0	18.5	18.5	18X1,5P
5tf (49,03kN)	183	48	38	19.1	95.3	38.1	30.5	39	92.0	20.5	20.5	20X2,5P

* Specifications are subject to change without notice.

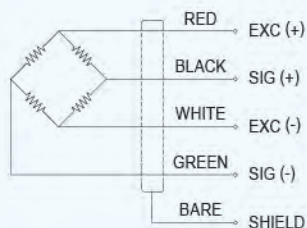
Weighing Module

> Model CPB32, CPB42, CPB52

Hopper, Bin, Tank weigh module Stainless Steel or Zinc Plated Steel Mounting Kit.



WIRING INFORMATION



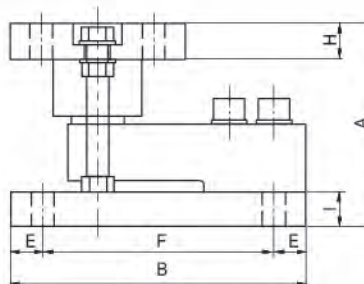
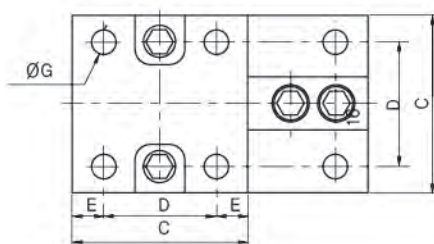
ORDERING INFORMATION

CPB32 - T2
Model CAPACITY(K300, K500, T1, T2, T3, T5)

CPB32 : CP loadcell + Zinc Plated Steel Mtg Kit

CPB42 : CPS loadcells + Zinc Plated Steel Mtg Kit

CPB52 : CPS loadcells + Stainless Steel Mtg Kit



> SPECIFICATIONS

Specifications	Accuracy	
	CBC32, CBC42	CBC52
Rated capacity(R.C)	300kgf, 500kgf, 1tf, 2tf, 3tf, 5tf	500kgf, 1tf, 2tf, 3tf, 5tf
Rated output(R.O)	2mV/V $\pm$ 0.1%	2mV/V $\pm$ 0.1%
Nonlinearity	0.02% of R.O.	0.03% of R.O.
Hysteresis	0.02% of R.O.	0.03% of R.O.
Repeatability	0.01% of R.O.	0.03% of R.O.
Creep	0.02% of R.O.	0.02% of R.O.
Zero balance	$\pm$ 1% of R.O.	$\pm$ 5% of R.O.
Temperature effect on rated output	0.02% of LOAD/10°C	0.02% of LOAD/10°C
Temperature effect on zero balance	0.05% of R.O./10°C	0.05% of R.O./10°C
Temperature range, compensated	-10°C to 70°C	-10°C to 40°C
Temperature range, safe	-20°C to 80°C	-20°C to 70°C
Terminal resistance, input	350 Ω $\pm$ 1%	350 $\pm$ 30 Ω
Terminal resistance, output	350 Ω $\pm$ 1%	350 $\pm$ 5 Ω
Insulation resistance bridge	2000M Ω	2000M Ω
Excitation recommended	10V	10V
Safe overload	150% R.C.	150% R.C.
Cable length	$\varnothing$ 5mm, 4core, 3m	$\varnothing$ 7mm, 4core, 3m

> DIMENSIONS TABLE

unit:mm

Capacity	A	B	C	D	E	F	G	H	I	Weight(kg)
300kg (2,942kN)	108	168	106	70	18	132	11.5	15	20	6.5
500kg~2t (4,903kN~19.61kN)	116	168	106	70	18	132	13.5	21	20	6.5
3t~5t (29.42kN~49.03kN)	145	225	150	110	20	185	18	25	30	16

★ Specifications are subject to change without notice.

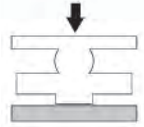
Double Ended Beam Load Cell

> Model CT

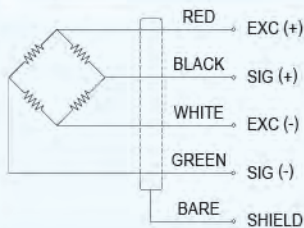
Capacity: 25tf, 30tf.

The Model CT, Double-Ended Shear Beam Load Cell is ideally suited for use in Truck Scales for heavy-duty, high-capacity weighing.

Protection Class IP67

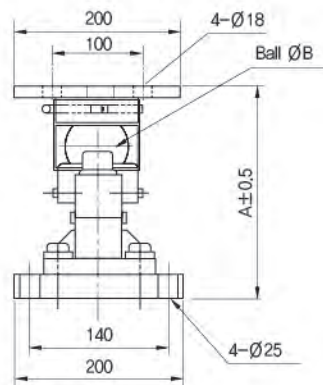
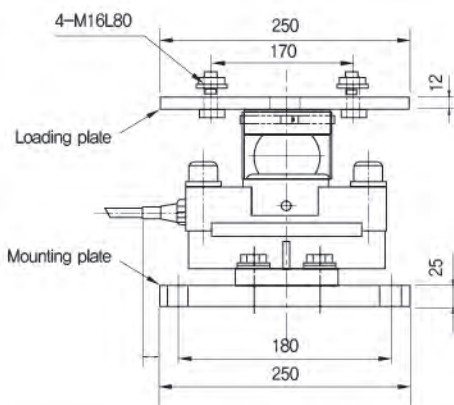


WIRING INFORMATION



ORDERING INFORMATION

CT-T25-FS : Full sets - 34kg
 CT-T25-BC : Loadcell, Ball, Cup and Cap - 16kg
 CT-T25-LC : Only loadcell - 14kg
 T25, T30



CAP.	A	B
25tf	255	3"
30tf	255	3"

> SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C)	25tf, 30tf (245,2kN, 294kN)
Rated output(R.O)	2mV/V±0.2%
Nonlinearity	0.03% of R.O.
Hysteresis	0.02% of R.O.
Repeatability	0.02% of R.O.
Creep(30min)	0.025% of R.O.
Zero balance	±2% of R.O.
Temperature effect on rated output	0.02% of LOAD/10°C
Temperature effect on zero balance	0.03% of R.O./10°C
Temperature range, compensated	-10°C to +70°C
Temperature range, safe	-20°C to +80°C
Terminal resistance, input	800±30Ω
Terminal resistance, output	700±2Ω
Insulation resistance bridge/case	2000MΩ
Excitation recommended	10V
Safe overload	150% R.C.
Cable length	Ø7±0.3mm 4core, 10m

★ Specifications are subject to change without notice.

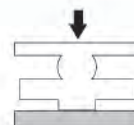
Double Ended Beam Load Cell

> Model CTM

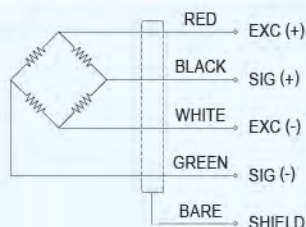
Capacity: 10tf

The Model CTM Double-Ended Shear Beam Load Cell is ideally suited for use in Truck Scales for heavy-duty, high-capacity weighing.

Protection Class IP67

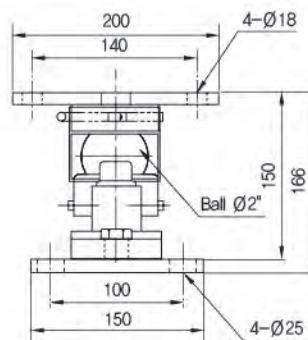
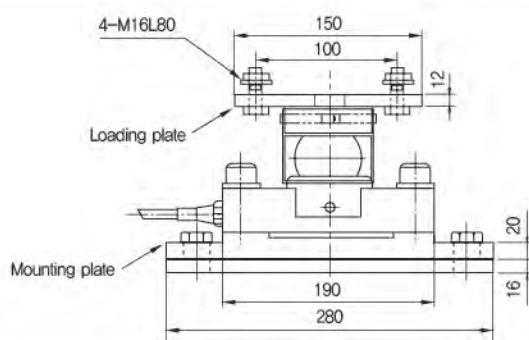


WIRING INFORMATION



ORDERING INFORMATION

CTM-T10-FS : Full sets - 18kg
 CTM-T10-BC : Loadcell, Ball, Cup and Cap - 9kg
 CTM-T10-LC : Only Loadcell - 7kg



> SPECIFICATIONS

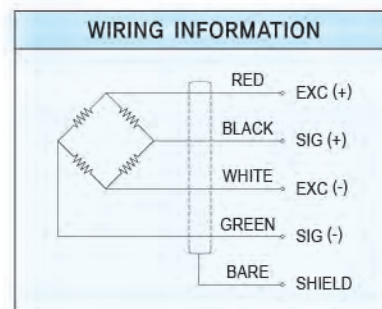
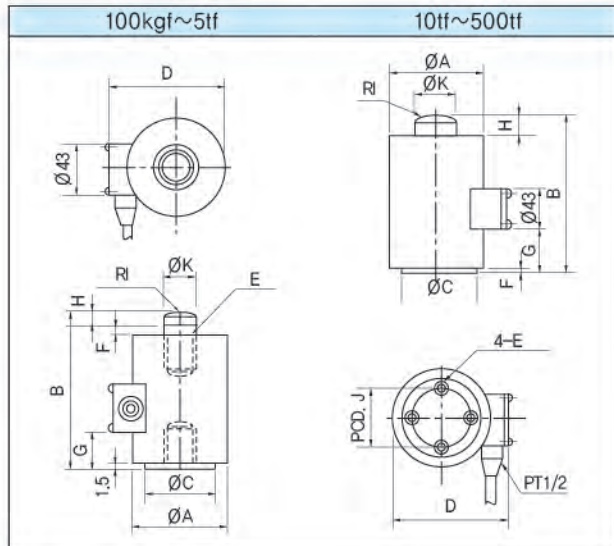
Specifications	Accuracy
Rated capacity(R.C)	10tf (98,07kN)
Rated output(R.O)	2mV/V $\pm$ 0.2%
Nonlinearity	0.03% of R.O.
Hysteresis	0.02% of R.O.
Repeatability	0.02% of R.O.
Creep(30min)	0.025% of R.O.
Zero balance	$\pm$ 2% of R.O.
Temperature effect on rated output	0.02% of LOAD/10°C
Temperature effect on zero balance	0.03% of R.O./10°C
Temperature range, compensated	-10°C to +70°C
Temperature range, safe	-20°C to +80°C
Terminal resistance, input	800 $\pm$ 30Ω
Terminal resistance, output	700 $\pm$ 2Ω
Insulation resistance bridge/case	2000MΩ
Excitation recommended	10V
Safe overload	150% R.C.
Cable length	Ø7 $\pm$ 0.3mm 4core, 10m

Specifications are subject to change without notice.

Compression Load Cells

> Model CX

High Precision Accuracy Compression Service, Hopper, Tank Weighing.
Protection Class IP67



> SPECIFICATIONS

Specifications	Accuracy	
	CXH	CX
Rated capacity(R.C)	1tf, 2tf, 3tf, 5tf, 10tf, 20tf	100kgf, 200kgf, 500kgf, 1tf, 2tf, 5tf, 10tf, 20tf, 30tf, 50tf, 100tf, 200tf, 300tf, 500tf, 1000tf
Rated output(R.O)	2.0mV/V±0.1%	2.0mV/V±0.1(50tf~500tf : 1.5mV/V±0.1%)
Nonlinearity	0.02% of R.O.	≤ 0.1% of R.O. (200, 300, 500tf, 1000tf : 0.5% of R.O.)
Hysteresis	0.02% of R.O.	≤ 0.1% of R.O. (200, 300, 500tf, 1000tf : 0.5% of R.O.)
Repeatability	0.02% of R.O.	≤ 0.1% of R.O.
Zero balance	±1% of R.O.	±1% of R.O.
Temperature effect on rated output	0.03% LOAD/10°C	0.1% LOAD/10°C
Temperature effect on zero balance	0.03% R.O./10°C	0.1% R.O./10°C
Temperature range, compensated	-10~60°C	-10~60°C
Temperature range, safe	-20~80°C	-20~80°C
Terminal resistance, input	350±5Ω	350±5Ω
Terminal resistance, output	350±5Ω	350±5Ω
Insulation resistance bridge/case	2000MΩ	2000MΩ
Excitation recommended	10V	10V
Safe overload	150% R.C.	150% R.C.
Cable length	Ø7mm, 4 Core, 3m	Ø7mm, 4 Core, 3m

> DIMENSIONS TABLE

unit:mm

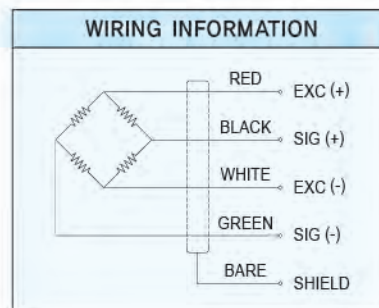
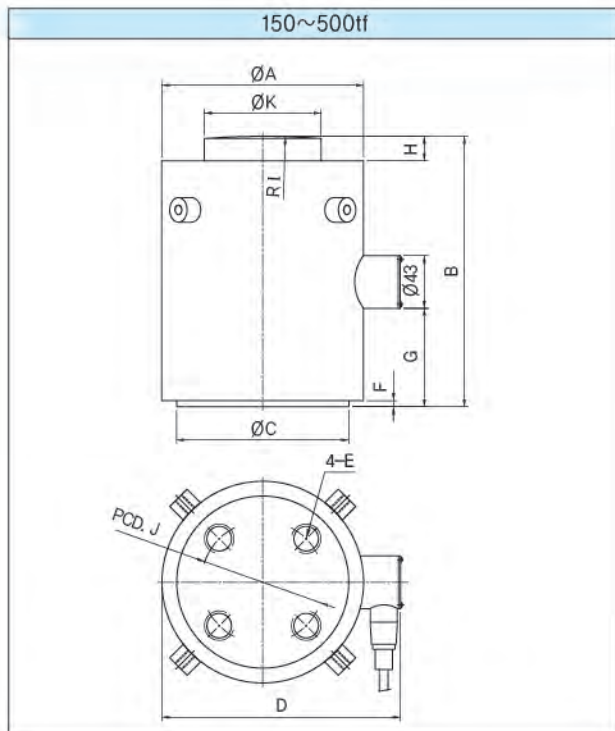
Capacity	ØA	B	ØC	D	E	F	G	H	RI	J	ØK	Weight(kg)
100kgf~1tf (980N~9.807kN)	88	107	50	118	M12×1.25 DP15	4	25	9	25	—	24	3
2tf (19.61kN)	88	150	66	118	M24×2 DP30	5	42	20	60	—	42	4.5
3tf (29.42kN)	88	150	66	118	M24×2 DP30	5	42	20	60	—	42	4.5
5tf (49.03kN)	88	150	66	118	M24×2 DP30	5	42	20	60	—	42	4.5
10tf (98.07kN)	93	127	80	129	M12×1.75 DP20	2	42	15	140	60	38	5
20tf (196.1kN)	93	147	80	129	M12×1.75 DP20	2	50	15	140	60	38	5.5
30tf (294.2kN)	93	147	80	129	M12×1.75 DP20	2	50	15	140	60	38	5.5
50tf (490.3kN)	137	165	110	170	M12×1.75 DP20	2	75	20	180	80	50	10
100tf (980.7kN)	166	210	140	198	M16×2 DP20	2	100	20	200	100	70	28
200tf (1.961MN)	216	250	180	246	M16×2 DP25	2	120	30	300	130	95	45
300tf (2.942MN)	216	320	180	246	M24×3 DP35	2	160	30	600	130	120	50
500tf (4.903MN)	256	400	238	283	M30×3.5 DP50	7	200	20	800	200	170	65
1000tf (9.807MN)	295	385	270	247	M24×3 DP35	5	170	25	800	200	220	140

◆ Specifications are subject to change without notice.

Compression Load Cells

> Model CX77

High Precision Accuracy Compression Service. Hopper,
Tank Weighing.
Nikel planted steel



> SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C)	150tf, 200tf, 300tf, 500tf
Rated output(R.O)	1.5mV/V±0.1%
Nonlinearity	≤ 0.3% of R.O.
Hysteresis	≤ 0.3% of R.O.
Repeatability	≤ 0.1% of R.O.
Zero balance	±1% of R.O.
Temperature effect on rated output	0.1% LOAD/10℃
Temperature effect on zero balance	0.1% R.O./10℃
Temperature range, compensated	-10~60℃
Temperature range, safe	-20~80℃
Terminal resistance, input	350±5Ω
Terminal resistance, output	350±5Ω
Insulation resistance bridge/case	2000MΩ
Excitation recommended	10V
Safe overload	150% R.C.
Cable length	Ø7mm, 4 Core, 3m

> DIMENSIONS TABLE

unit:mm

Capacity	ØA	B	ØC	D	E	F	G	H	RI	J	ØK	Weight(kg)
150tf (1.530MN)	166	220	140	194	M20×2.5 DP30	5	80	20	600	100	95	29
200tf (1.961MN)	164	220	140	194	M20×2.5 DP30	5	80	20	600	100	95	29
300tf (2.942MN)	164	250	140	194	M24×3 DP35	5	94	20	600	100	95	30
500tf (4.903MN)	217	270	170	247	M24×3 DP35	7	125	25	600	130	120	55

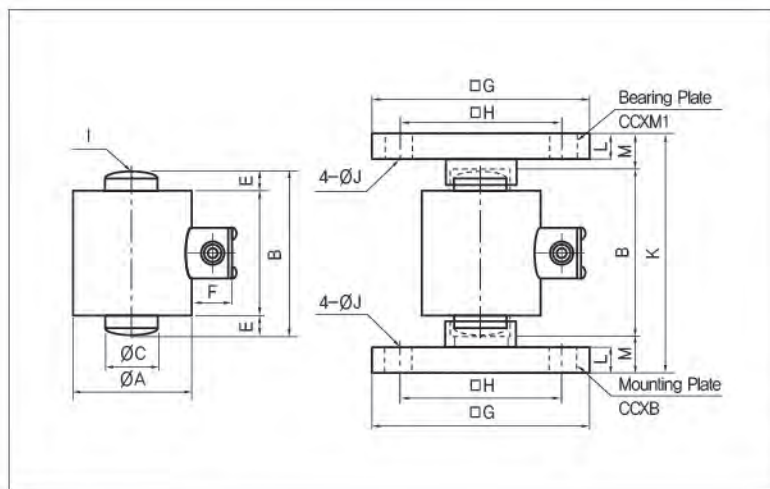
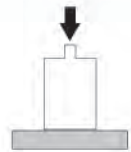
★ Specifications are subject to change without notice.

Compression Load Cells

> Model CCX

The model CCX Loadcell is heavy duty weighing applications, including hoppers, tanks, silos and high capacity scales. Protection Class IP67

- Insensitive to side load
- Double convex type
- Robust high capacity design
- Option : Anti-rotation Device



ORDERING INFORMATION

CCX - T10 - FS : Full sets (CCXM1 and CCXB1)

Model CAPACITY

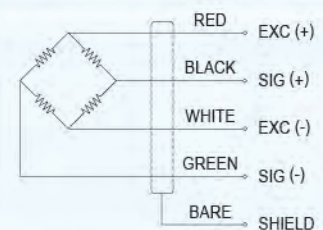
CCX - T10 - LC : Only Loadcell

Model CAPACITY

> SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C)	10t, 20t, 30t, 50t, 100t, 200t, 300t, 500t
Rated output(R.O)	1.5 mV/V $\pm$ 0.5%
Nonlinearity	0.1% of R.O.
Hysteresis	0.1% of R.O.
Repeatability	0.05% of R.O.
Creep(30min)	0.05% of R.O. / 20min
Zero balance	1% R.O.
Temperature effect on rated output	0.03% of LOAD/10°C
Temperature effect on zero balance	0.03% of R.O./10°C
Temperature range, compensated	-10~60°C
Temperature range, safe	-20~80°C
Terminal resistance, input	350 $\pm$ 5 Ω
Terminal resistance, output	350 $\pm$ 5 Ω
Insulation resistance	2000M Ω
Excitation recommended	10V DC
Safe overload	150% R.C.
Cable length	$\varnothing$ 7mm, 4 Core, 5m

WIRING INFORMATION



> DIMENSIONS TABLE

unit:mm

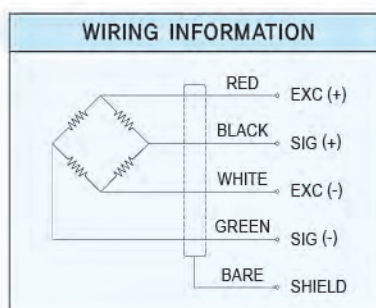
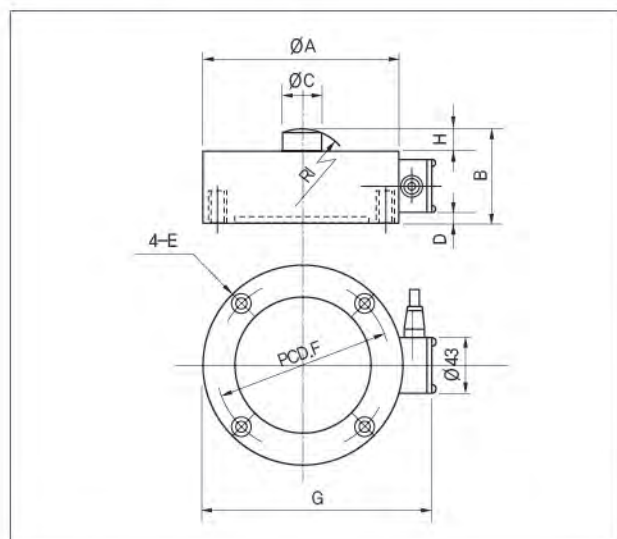
Capacity	A	B	C	D	E	F	G	H	J	K	L	M	R1	Weight(kg)
10t (98.07kN)	88	120	24	90	15	30	140	100	18	180	30	19	140	7.8
20t (196.1kN)	88	120	38	90	15	30	140	100	18	190	35	22	140	9.6
30t (294.2kN)	93	140	38	110	15	30	200	150	23	220	40	25	140	20.2
50t (490.7kN)	137	180	50	140	20	30	200	150	23	280	50	25	180	24.5
100t (980.7kN)	166	240	70	200	20	30	220	160	27	356	58	32	200	42.7
200t (1.961MN)	216	260	95	210	25	30	280	220	39	396	68	40	300	86.4
300t (2.942MN)	216	340	120	290	25	30	300	220	45	492	76	50	600	150.0
500t (4.903MN)	265	390	155	330	30	30	380	280	50	568	89	65	800	253.1

★ Specifications are subject to change without notice.

Low Profile Compression Load Cell

> Model CL

Low Profile Compression Service Load Cell,
Hopper, Tank Weighing
CL : Painted finished steel, Protection Class IP67,
CLH : Nikel planted steel



> SPECIFICATIONS

Specifications	Accuracy	
	CL	CLH
Rated capacity(R.C)	500kgf, 1tf, 2tf, 5tf, 10tf, 20tf, 50tf, 100tf, 200tf, 300tf, 500tf	500kgf, 1tf, 2tf, 5tf, 10tf, 20tf, 50tf
Rated output(R.O)	2mV/V±0.1%	2mV/V±0.1%
Nonlinearity	0.05% of R.O.(100tf, 200tf : 0.1%)	0.02% of R.O.
Hysteresis	0.05% of R.O.(100tf, 200tf : 0.1%)	0.02% of R.O.
Repeatability	0.03% of R.O.(100tf, 200tf : 0.05%)	0.02% of R.O.
Zero balance	±2% of R.O.	±2% of R.O.
Temperature effect on rated output	0.05% LOAD/10°C	0.03% LOAD/10°C
Temperature effect on zero balance	0.05% R.O./10°C	0.03% R.O./10°C
Temperature range, compensated	-10°C to 60°C	-10°C to 60°C
Temperature range, safe	-20°C to 80°C	-20°C to 80°C
Terminal resistance, input	700±30Ω	700±30Ω
Terminal resistance, output	700±30Ω	700±30Ω
Insulation resistance bridge/case	2000MΩ	2000MΩ
Excitation recommended	10V	10V
Safe overload	150% R.C.	150% R.C.
Cable length	Ø7mm, 4 Core, 3m	Ø7mm, 4 Core, 3m

> DIMENSIONS TABLE

unit:mm

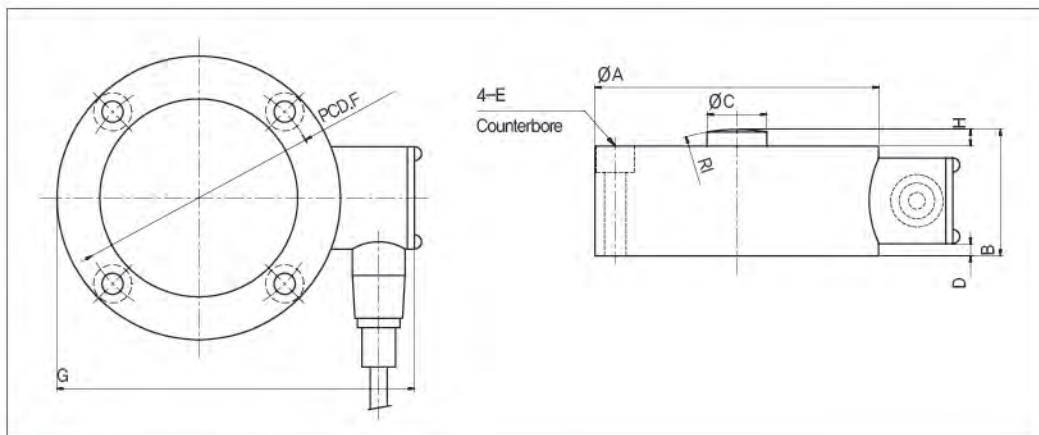
Capacity	ØA	B	ØC	D	E	PCD. F	G	H	R1	Weight(kg)
500kgf (490.3kN)	88	30	16	1.5	M6×1 DP10	70	119	5	60	1.8
1tf (9.807kN)	98	46	22	1.5	M8×1.25 DP12	80	129	7	60	
2tf (19.61kN)	98	46	22	1.5	M8×1.25 DP12	80	129	7	60	2.6
5tf (49.03kN)	98	46	22	1.5	M8×1.25 DP12	80	129	7	60	
10tf (98.07kN)	118	65	24	11	M8×1.25 DP12	98	149	7	80	3.8
20tf (196.1kN)	157	65	34	11	M8×1.25 DP12	120	188	10	100	8
30tf (294.2kN)	187	75	50	16	M12×1.75 DP20	150	218	10	140	14
50tf (490.3kN)	187	75	50	16	M12×1.75 DP20	150	218	10	140	14
100tf (980.7kN)	278	120	74	37	M12×1.75 DP20	240	309	15	160	45
200tf (1.961MN)	320	170	100	63.5	M16×2 DP20	270	351	15	250	85
300tf (2.942MN)	396	195	140	68.5	M16×2 DP20	330	427	15	320	180
500tf (4.903MN)	430	200	150	68.5	M20×2.5 DP25	360	485	20	320	220

Specifications are subject to change without notice.

Low Profile Compression Load Cell

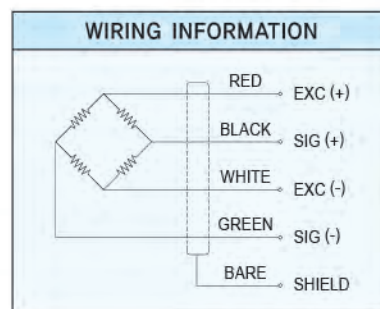
> Model CL63

Low Profile Compression Service Load Cell.
Hopper, Tank Weighing
CL : Protection Class IP67



> SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C)	500kgf, 1tf, 2tf, 5tf, 10tf, 15tf, 20tf, 30tf, 50tf, 100tf
Rated output(R.O)	2.0mV/V $\pm$ 0.1%
Nonlinearity	0.05% of R.O.
Hysteresis	0.05% of R.O.
Repeatability	0.03% of R.O.
Zero balance	$\pm$ 2% of R.O.
Temperature effect on rated output	0.05% of LOAD/10 $^{\circ}$ C
Temperature effect on zero balance	0.03% of R.O./10 $^{\circ}$ C
Temperature range, compensated	-10 $^{\circ}$ C to 60 $^{\circ}$ C
Temperature range, safe	-20 $^{\circ}$ C to 80 $^{\circ}$ C
Terminal resistance, input	700 Ω $\pm$ 30 Ω
Terminal resistance, output	700 Ω $\pm$ 3 Ω
Excitation resistance bridge	2000M Ω
Excitation recommended	10V
Safe overload	150% R.C.
Cable length	Ø7mm, 4core, 3m



> DIMENSIONS TABLE

unit:mm

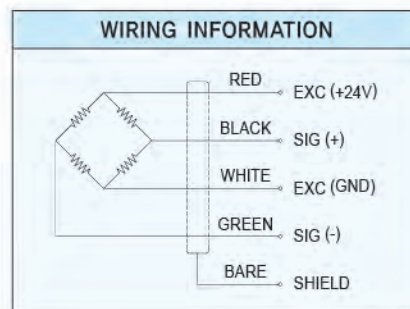
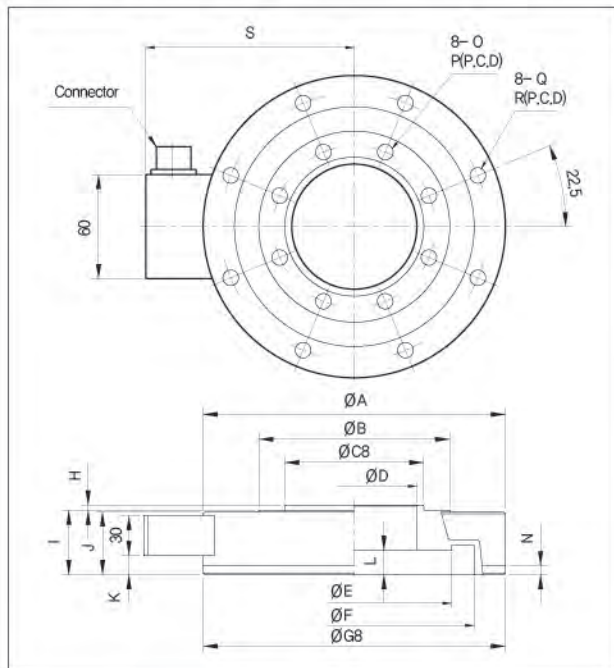
Model	ØA	B	ØC	D	E	PCD, F	G	H	Ri
500kgf	88	28	16	0.5	M6	73	119	5	60
1tf	88	28	16	0.5	M6	73	119	5	60
2tf	104	44	22	1.5	M8	86	135	7	60
5tf	104	44	22	1.5	M8	86	135	7	60
10tf	119	53	25	1.5	M8	102	150	7	80
15tf	144	65	45	7	M10	118	175	7	100
20tf	144	65	45	7	M10	118	175	7	100
30tf	189	67	55	7	M12	158	220	10	140
50tf	189	67	55	7	M12	158	220	10	140
100tf	226	100	70	23.5	M16	190	257	10	160

* Specifications are subject to change without notice.

Compression Load Cell

> Model UL12

Canister, through-hole type.
Suitable for application in injection molding machines.



> SPECIFICATIONS

Specifications	Accuracy
Rated capacity	6tf~50tf (58.84kN~490.3kN)
Safe overload	150% R.C.
Nonlinearity	0.6% of R.O.
Hysteresis	0.6% of R.O.
Repeatability	0.2% of R.O.
Current output	4mA to 20mA (4 wires method)
Power supply voltage	DC 24V
Temperature range, compensated	0°C to 60°C
Temperature range, safe	-10°C to 70°C
Temperature effect on zero balance	0.15% R.O./10°C
Temperature effect on output	0.15% LOAD/10°C
Cable	4core, 5m
Class of protection	Equivalent to IP64. (main body only)
Materials of the element	10V
Durability	Alloy steel
Fatigue life	10 ⁶ times with rated capacity.

> DIMENSIONS TABLE

unit:mm

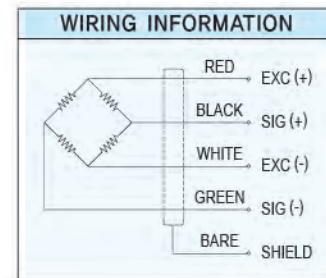
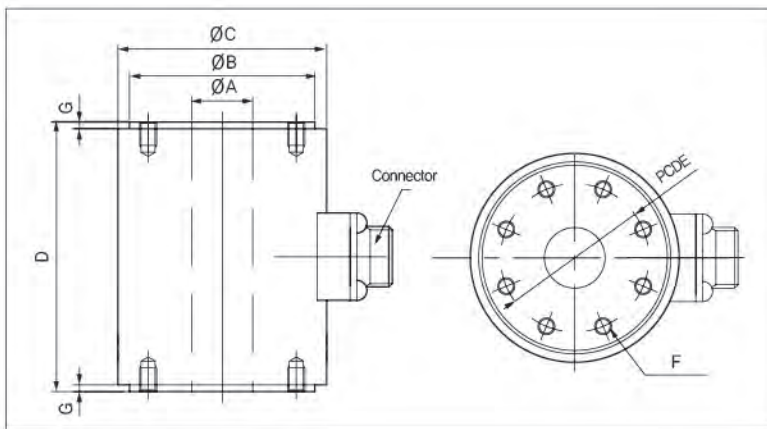
Model	Capacity	A	B	C	D	E	F	G	H	I	J	K	L	N	O	P	Q	R	S	Weight (Approx. kg)
UL12-T6	58.84kN	174	110	80	72	112	138	174	3	37	37	6	14	5	9	93	9	154	120	8
UL12-T8	78.45kN																			
UL12-T12	118kN	180	110	80	70	112	138	181	5	60	59.5	26	17	10	9	93	9	160	123	10
UL12-T15	147.1kN																			
UL12-T20	196.1kN																			
UL12-T27	265kN	275	180	135	110	182	208	276	5	60	60	26	17	10	13	160	13	247	171	19
UL12-T34	333.4kN																			
UL12-T50	490.3kN																			

Specifications are subject to change without notice.

Hollow Type Load Cell

> Model CWH

Easy installation with hole in center.
Designed for use in civil engineering measurement,
these loads on tunnel supports and soil pressure on
protective Walls to aid control in construction proj-ects.
Protection Class IP64



> SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C)	500kgf, 1tf, 2tf, 3tf, 5tf, 10tf, 20tf, 50tf, 100tf, 200tf, 300tf, 500tf
Rated output(R.O)	1mV/V $\pm$ 0.4%
Nonlinearity	1% of R.O.
Hysteresis	1% of R.O.
Repeatability	0.2% of R.O.
Zero balance	$\pm$ 2% of R.O.
Temperature effect on rated output	0.05% of LOAD/10°C
Temperature effect on zero balance	0.1% of R.O./10°C
Temperature range, compensated	-10°C to 60°C
Temperature range, safe	-20°C to 80°C
Terminal resistance, input	700 $\pm$ 50 Ω (500kg : 350 Ω)
Terminal resistance, output	700 $\pm$ 5 Ω (500kg : 350 Ω)
Insulation resistance bridge/case	2000M Ω
Excitation recommended	10V
Safe overload	150% R.C.
Cable length	$\varnothing$ 7mm, 4core, 3m

> DIMENSIONS TABLE

unit:mm

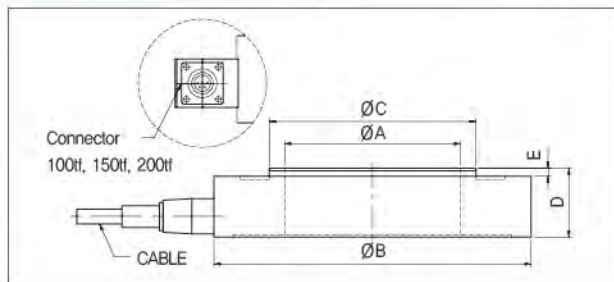
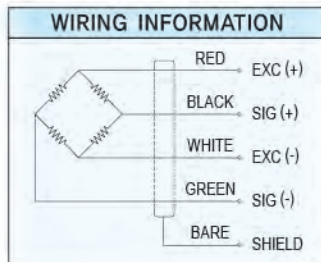
Capacity	ØA	ØB	ØC	D	E	F	G	Weight(kg)
500kgf (4.903kN)	10	24	40	50	18	2×4-M4 DP10	1	0.5
1tf (9.807kN)	18	55	62	70	44	2×8-M5 DP10	2	1
2tf (19.61kN)	18	55	62	70	44	2×8-M5 DP10	2	1
3tf (29.42kN)	18	55	62	70	44	2×8-M5 DP10	2	1
5tf (49.03kN)	18	55	62	70	44	2×8-M5 DP10	2	1
10tf (98.07kN)	18	55	62	80	44	2×8-M5 DP10	2	1.3
20tf (196.1kN)	43	68	96	80	56	2×8-M6 DP10	3	3
50tf (490.3kN)	80	112	130	110	96	2×6-M8 DP10	3	11
100tf (980.7kN)	85	118	158	110	102	2×6-M12 DP10	3	13
200tf (1.961MN)	120	162	240	120	140	2×6-M12 DP12	3	25
300tf (2.942MN)	120	179	240	120	150	2×6-M12 DP15	3	26
500tf (4.903MN)	150	227	265	200	190	2×12-M16 DP15	8	30

★ Specifications are subject to change without notice.

Slim Hollow Type Load Cell

> Model CWW

These load cells are extremely Slim and lightweight. Easy installation with hole in center. Designed for use in civil engineering measurement, these loads on tunnel supports and soil pressure on protective Walls to aid control in construction proj-ects. Protection Class IP66



> SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C)	50kgf, 100kgf, 200kgf, 500kgf, 1t, 2t, 3t, 5t, 10t, 20t, 30t, 50t, 100t, 150t, 200t (490.3N, 980.7N, 1.961kN, 4.903kN, 9.807kN, 19.61kN, 29.42kN, 49.03kN, 98.07kN, 196.1kN, 490.3kN, 980.7kN, 1.961MN)
Rated output(R.O)	1.5mV/V±0.4%
Nonlinearity	1% of R.O.
Hysteresis	1% of R.O.
Repeatability	0.5% of R.O.
Zero balance	0.5% of R.O.
Temperature effect on rated output	0.05% of LOAD/10°C
Temperature effect on zero balance	0.1% of R.O./10°C
Temperature range, compensated	-10°C to 60°C
Temperature range, safe	-20°C to 80°C
Terminal resistance, input	700±10Ω
Terminal resistance, output	700±5Ω
Insulation resistance bridge	2000MΩ
Excitation recommended	10V
Safe overload	150% R.C.
Cable length	50kgf~5t : Ø5mm 4core, 3m 10~200t : Ø7mm 4core, 3m

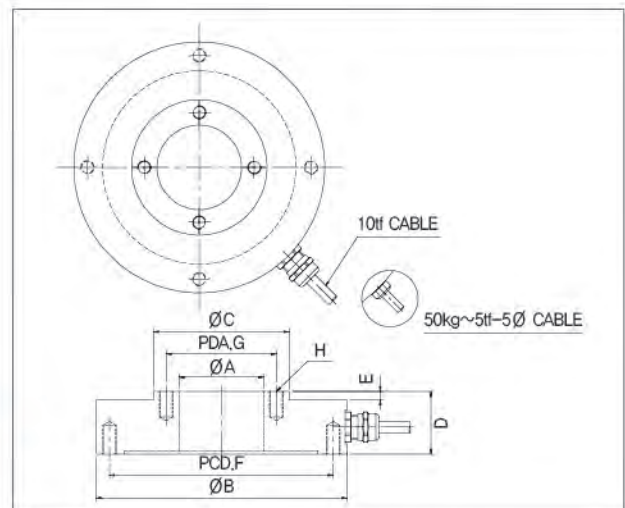
> DIMENSIONS TABLE

unit:mm

Capacity	ØA	ØB	ØC	D	E	Weight(kg)
50kgf	10	55	22	15	2	0.5
100kgf	10	55	22	15	2	
200kgf	10	55	22	15	2	
500kgf	10	55	22	15	2	
1t	12	68	28	20	1.5	0.7
2t	12	68	28	20	1.5	
3t	12	68	28	20	1.5	
5t	12	68	28	20	1.5	
10t	50	148	80	37	5	3.5
20t	70	155	99	43	5	
30t	70	155	99	43	5	
50t	70	155	99	43	5	
100t	110	198	129	43	5	8
150t	165	278	200	50	8	
200t	170	308	212	65	10	

> Model CWW11

Center hole type compressor makes it easy to install slim format. Suitable for measuring bolt tension and creates various sizes of orders.



> SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C)	50kgf ~ 500kgf (490.3N ~ 4.903kN) 1t ~ 10t (98.07kN ~ 98.07kN)
Rated output(R.O)	1.5mV/V±0.4%
Nonlinearity	1% of R.O.
Hysteresis	1% of R.O.
Repeatability	0.5% of R.O.
Zero balance	0.5% of R.O.
Temperature effect on rated output	0.05% of LOAD/10°C
Temperature effect on zero balance	0.1% of R.O./10°C
Temperature range, compensated	-10°C to 60°C
Temperature range, safe	-20°C to 80°C
Terminal resistance, input	700±10Ω
Terminal resistance, output	700±5Ω
Insulation resistance bridge	2000MΩ
Excitation recommended	10V
Safe overload	150% R.C.
Cable length	50kgf~5t : Ø5mm 4core, 3m 10t : Ø7mm 4core, 3m

> DIMENSIONS TABLE

unit:mm

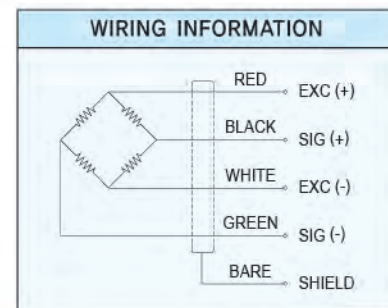
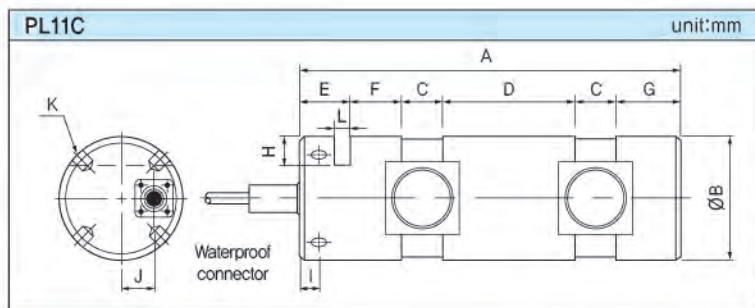
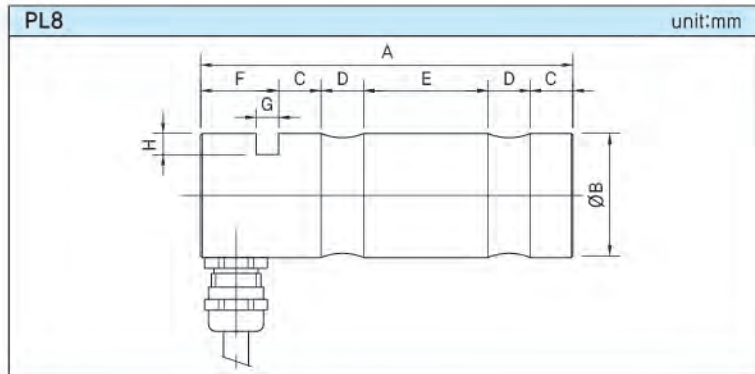
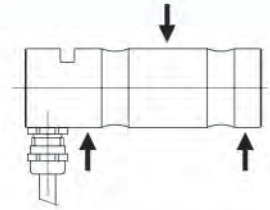
Capacity	ØA	ØB	ØC	D	E	F	G	H
50kgf (490.3N)	10	55	22	15	2	48	16	2×4-M4 DP6
100kgf (980.7N)	10	55	22	15	2	48	16	2×4-M4 DP6
200kgf (1.961kN)	10	55	22	15	2	48	16	2×4-M4 DP6
500kgf (4.903kN)	10	55	22	15	2	48	16	2×4-M4 DP6
1t (9.807kN)	12	68	28	20	1.5	60	20	2×4-M6 DP10
2t (19.61kN)	12	68	28	20	1.5	60	20	2×4-M6 DP10
3t (29.42kN)	12	68	28	20	1.5	60	20	2×4-M6 DP10
5t (49.03kN)	12	68	28	20	1.5	60	20	2×4-M6 DP10
10t (98.07kN)	50	148	80	37	5	132	65	2×6-M8 DP15

Specifications are subject to change without notice.

Pin Type Load Cells

> Model PL8, PL11C

Pin Type, Load cells made from stainless steel, Small size, easy to install.
Load cells for crane scale system and Load limiter system.
Protection class IP67



> SPECIFICATIONS

Specifications	Accuracy	
	PL8	PL11C
Rated capacity(R.C)	2t, 5t, 10t, 20t, 40t	50t, 100t, 125t, 150t, 200t
Rated output(R.O)	1mV/V $\pm$ 0.5%	1mV/V $\pm$ 0.5%
Nonlinearity	0.15% of R.O.	0.15% of R.O.
Hysteresis	0.15% of R.O.	0.1% of R.O.
Repeatability	0.1% of R.O.	0.1% of R.O.
Creep	0.05% of R.O.	0.05% of R.O.
Zero balance	$\pm$ 1% of R.O.	$\pm$ 1% of R.O.
Temperature effect on rated output	0.01% LOAD/10 $^{\circ}$ C	0.01% LOAD/10 $^{\circ}$ C
Temperature effect on zero balance	0.02% R.O./10 $^{\circ}$ C	0.02% R.O./10 $^{\circ}$ C
Temperature range, compensated	-10 $^{\circ}$ C to 70 $^{\circ}$ C	-10 $^{\circ}$ C to 70 $^{\circ}$ C
Temperature range, safe	-20 $^{\circ}$ C to 80 $^{\circ}$ C	-20 $^{\circ}$ C to 80 $^{\circ}$ C
Terminal resistance input, output	700 Ω $\pm$ 1%	700 Ω $\pm$ 5%
Insulation resistance bridge/case	2000M Ω	2000M Ω
Excitation recommended	10V	10V
Safe overload	120% R.C.	150% R.C.
Cable length	$\varnothing$ 5mm, 4 Core, 3m	$\varnothing$ 7mm, 4 Core, 3m

> DIMENSIONS TABLE

Model	Capacity	A	$\varnothing$ B	C	D	E	F	G	H	unit:mm			
PL8-T2	2t (19.61kN)	105	35	12	12	35	22	6.3	6				
PL8-T5	5t (49.03kN)	105	35	12	12	35	22	6.3	6				
PL8-T10	10t (98.07kN)	152	50	18	18	48	32	10.5	5				
PL8-T20	20t (196.1kN)	190	65	20	25	65	35	10.5	10				
PL8-T40	40t (392.3kN)	256	85	28	35	89	41	12.5	14.5				
Model	Capacity	A	$\varnothing$ B	C	D	E	F	G	H	I	J	K	L
PL11C-T50	50t (490.35kN)	258	85	28	89	34	35	44	20	13	22.5	4- $\varnothing$ 10 DP10	10.5
PL11C-T100	100t (980.7kN)	347	100	35	120	36	55	66	14	13	28	4- $\varnothing$ 10 DP10	10.5
PL11C-T125	125t (1225.87kN)	347	120	35	120	36	55	66	40	13	34.5	4- $\varnothing$ 10 DP10	12.5
PL11C-T150	150t (1471.05kN)	450	140	50	140	70	70	70	40	20	35	4- $\varnothing$ 10 DP10	30
PL11C-T200	200t (1961.4kN)	356	160	50	80	50	38	88	24	15	35	4- $\varnothing$ 10 DP10	20

◆ Specifications are subject to change without notice.

Compression Load Cell

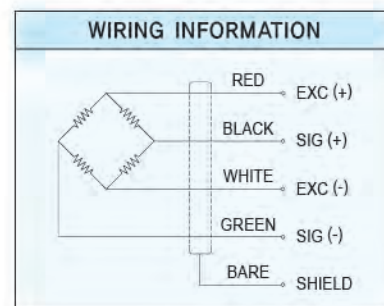
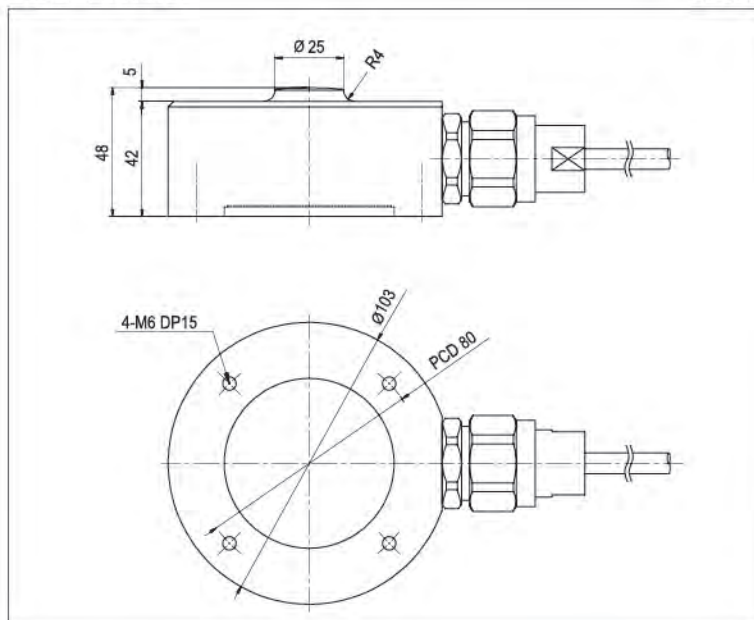
> Model CM116

Compression Load Cell,
Low profile & Robust design
KOSHA of the certified explosion-proof type load cell,
Classification code : Ex d IIB T4.



> DIMENSIONS

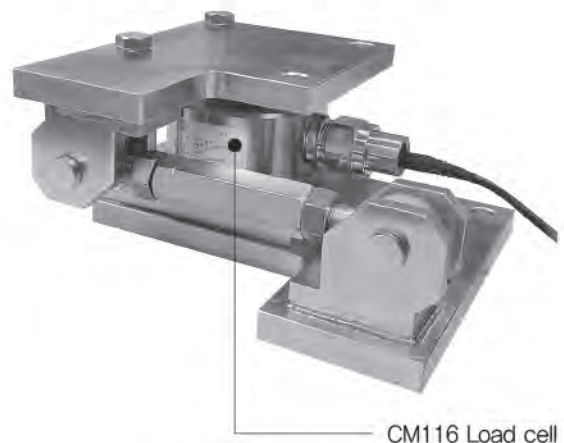
unit:mm



> SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C)	2tf, 3tf, 5tf, 10tf, 15tf, 20tf
Rated output(R.O)	2.0mV/V $\pm$ 0.25%
Nonlinearity	0.05% of R.O.
Hysteresis	0.05% of R.O.
Repeatability	0.02% of R.O.
Zero balance	$\pm$ 2% of R.O.
Temperature effect on rated output	0.03% of LOAD/10°C
Temperature effect on zero balance	0.03% of R.O./10°C
Temperature range, compensated	-10°C to +50°C
Temperature range, safe	-10°C to +80°C
Terminal resistance, input	700 Ω $\pm$ 20 Ω
Terminal resistance, output	700 Ω $\pm$ 10 Ω
Insulation resistance bridge	2000M Ω
Excitation recommended	10V
Safe overload	150% R.C.
Cable length	Ø5mm, 4core, 3m

> Mounting Kit (CMI-116)



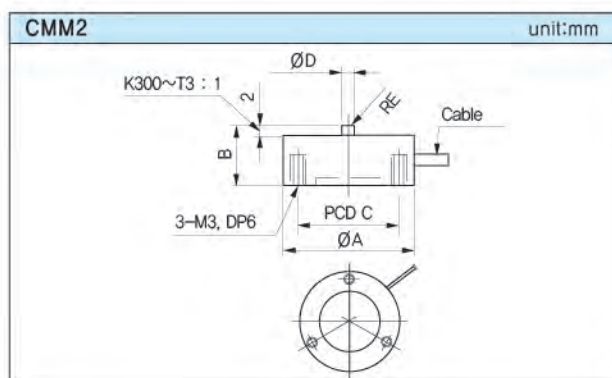
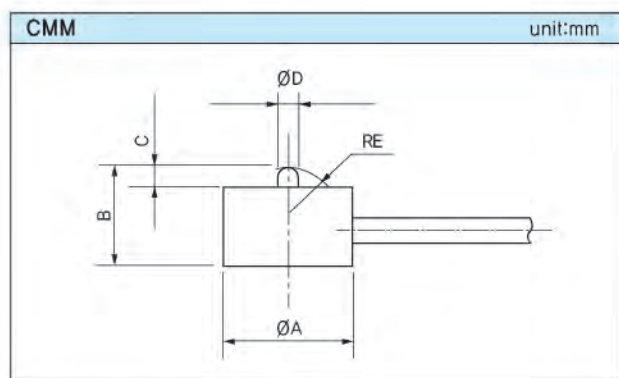
CM116 Load cell

Specifications are subject to change without notice.

Miniature Compression Load Cells

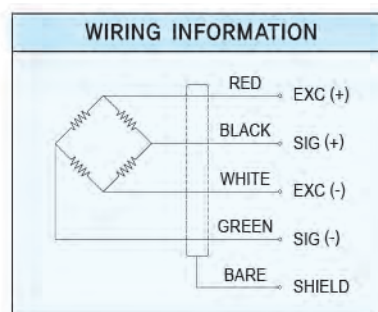
> Model CMM, CMM2

Optimum suitability for weight distribution analysis.
Super compact and lightweight.
Competitive price, Stainless steel construction.



> SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C)	1kgf, 2kgf, 5kgf, 10kgf, 20kgf, 50kgf, 100kgf, 200kgf, 300kgf, 500kgf, 1tf, 2tf, 3tf
Rated output(R.O)	0.7mV/V to 1.2mV/V
Nonlinearity	≤1.0% R.O.(1tf~3tf : ≤2% R.O.)
Hysteresis	1.0% of R.O.
Repeatability	1.0% of R.O.
Zero balance	±5% of R.O.
Terminal resistance, input	350Ω ±10%
Terminal resistance, output	350Ω ±5%
Temperature range, allowable	-20°C to +70°C
Excitation recommended	5V DC
Safe overload	150% R.C.
Cable length	Ø3mm, 4core, 3m



> DIMENSIONS TABLE(CMM)

unit:mm

Capacity	A	B	C	ØD	RE	Weight(kg)
1kgf (9.807N)	16	12	2	2.5	5	0.2
2kgf (19.61N)	16	12	2	2.5		
5kgf (49.03N)	16	12	2	2.5		
10kgf (98.07N)	20	11.5	2	2.5		
20kgf (196.1N)	20	11.5	2	2.5		
50kgf (490.3N)	20	11.5	2	2.5		
100kgf (980.7N)	20	11.5	2	2.5		
200kgf (1.961kN)	20	11.5	2	2.5	30	0.3
300kgf (2.942kN)	20	14	0.7	4		
500kgf (4.903kN)	20	14	0.7	4		

> DIMENSIONS TABLE(CMM2)

unit:mm

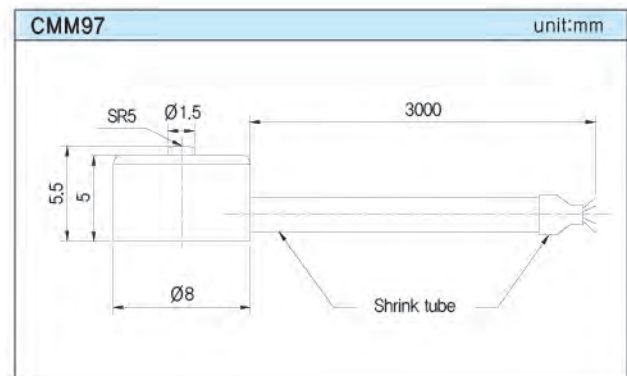
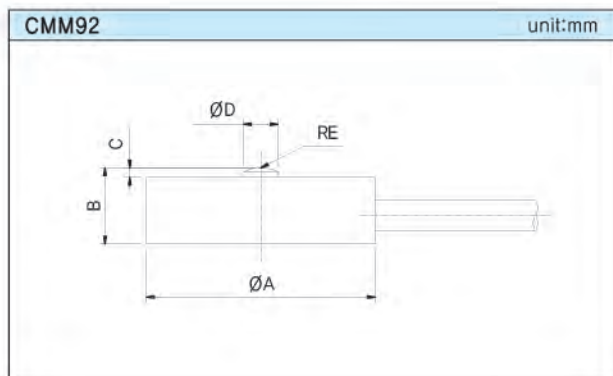
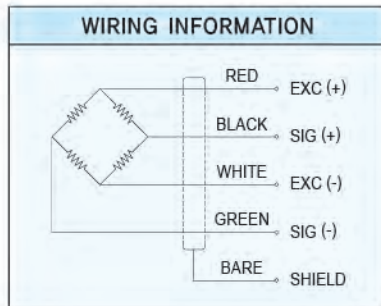
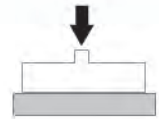
Capacity	ØA	B	PCD C	ØD	RE	Weight(kg)
1kgf (9.807N)	21	12	17	2.5	5	0.3
2kgf (19.61N)	21	12	17	2.5		
5kgf (49.03N)	21	12	17	2.5		
10kgf (98.07N)	26	12	21	2.5		
20kgf (196.1N)	26	12	21	2.5		
50kgf (490.3N)	26	12	21	2.5		
100kgf (980.7N)	26	12	21	2.5		
200kgf (1.961kN)	26	12	21	2.5	30	0.3
300kgf (2.942kN)	26	14	21	4		
500kgf (4.903kN)	26	14	21	4		
1tf (9.807kN)	26	14	21	4		
2tf (19.61kN)	26	14	21	4		
3tf (29.42kN)	26	14	21	8	40	

Specifications are subject to change without notice.

Miniature Compression Load Cells

> Model CMM92, CMM97

Small-Sized Compression Load Cell.
Super compact and lightweight.
Competitive price.



> SPECIFICATIONS

Specifications	Accuracy	
	CMM92	CMM97
Rated capacity(R.C)	1kgf, 2kgf, 5kgf, 10kgf, 20kgf	20kgf ~ 50kgf
Rated output(R.O)	0.5 or more (mV/V)	
Nonlinearity	±1% of R.O.	
Hysteresis	±1% of R.O.	
Repeatability	1% of R.O.	
Zero balance	±2% of R.O.	
Temperature effect on rated output	±2% LOAD/10°C	
Temperature effect on zero balance	±2% R.O./10°C	
Temperature range, compensated	0°C to 40°C	
Temperature range, safe	-10°C to 60°C	
Terminal resistance input, output	350Ω ±2.5%	
Insulation resistance bridge/case	2000MΩ	
Excitation recommended	5V	
Safe overload	120% R.C.	
Material	Aluminum(1kgf, 2kgf)/Stainless steel(5kgf, 10kgf, 20kgf)	Stainless steel
Cable length	Ø1.6mm, 4core, 3m	

> DIMENSIONS TABLE

unit:mm

Capacity	ØA	B	C	ØD	E
1kgf ~ 5kgf	12	4	0.5	1.8	2
10kgf ~ 20kgf	15	4	0.5	2.5	4

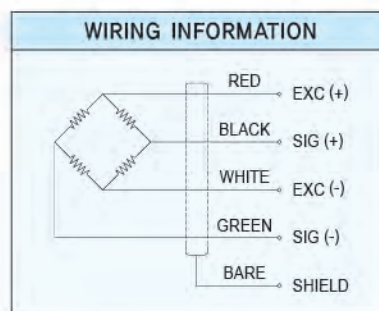
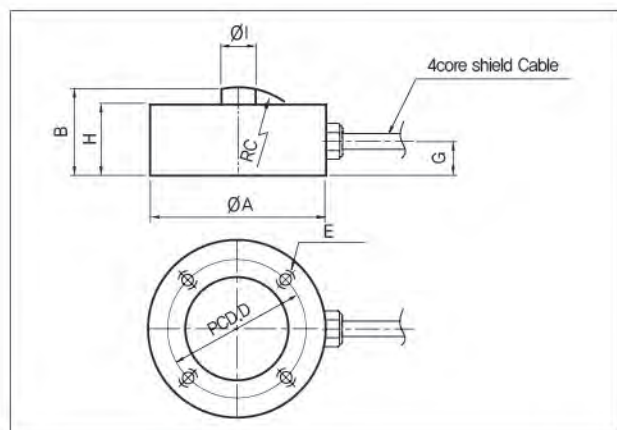
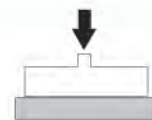
★ Specifications are subject to change without notice.

Miniature Compression Load Cells

> Model CM, CM2

Compression Load Cell.

These load cells are extremely small and lightweight.



>SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C)	50kgf, 100kgf, 200kgf, 500kgf, 1tf, 2tf, 3tf, 5tf, 10tf, 20tf (490.3N, 980.7N, 1.961kN, 4.903kN, 9.807kN, 19.61kN, 49.03kN, 98.07kN, 196.1kN)
Rated output(R.O)	2mV/V $\pm$ 0.4%
Nonlinearity	0.15% of R.O. (CM2 : 0.3% of R.O.)
Hysteresis	0.1% of R.O.
Repeatability	0.1% of R.O.
Zero balance	$\pm$ 2% of R.O.
Temperature effect on rated output	0.1% of LOAD/10°C
Temperature effect on zero balance	0.05% of R.O./10°C
Temperature range, compensated	-10°C to 70°C
Temperature range, safe	-20°C to +80°C
Terminal resistance, input	350 Ω $\pm$ 50 Ω
Terminal resistance, output	350 Ω $\pm$ 2 Ω
Insulation resistance bridge	2000M Ω
Excitation recommended	10V
Safe overload	150% R.C.
Cable length	CM, : 50kgf~2tf ($\varnothing$ 5mm 4core, 3m) / CM2 : 3tf~5tf ($\varnothing$ 5mm 4core, 3m) / CM : 3tf~10tf ($\varnothing$ 7mm 4core, 3m)

>DIMENSIONS TABLE

unit:mm

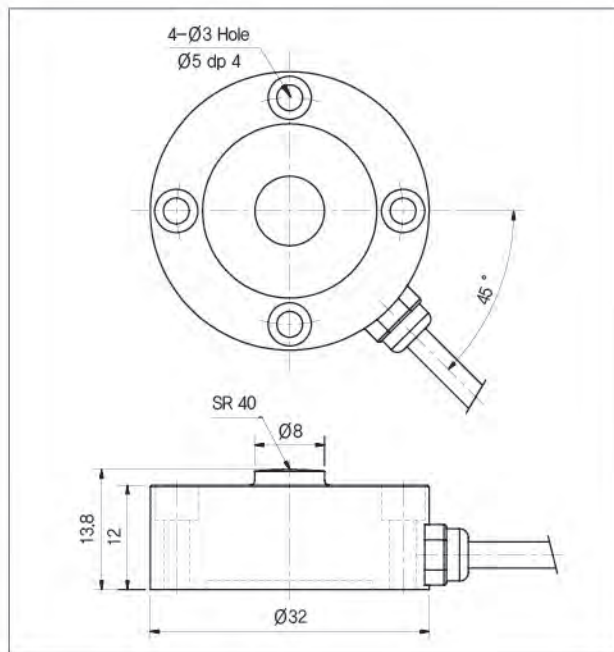
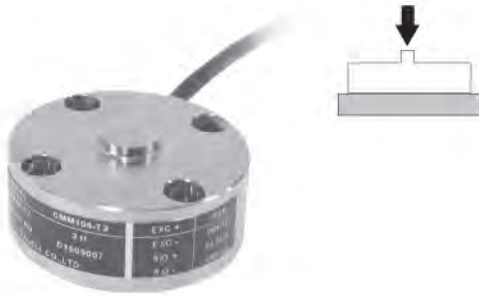
Model	Capacity	ØA	B	C	D	E	G	H	ØI	Weight(kg)
CM	50kgf~2tf (490N~19.61kN)	51	26	R50	42	4-M5×0.8 DP6	10.5	22	10	0.4
	3tf (29.42kN), 5tf (49.03kN)	88	42	R150	72	4-M6×1 DP10	17	37	18	2
	10tf (98.07kN)	88	47	R150	72	4-M6×1 DP10	17	42	18	2
	20tf (196.1kN)	118	50	R150	90	8-M8×1 DP10	17	45	20	3
CM2	3tf (29.42kN), 5tf (49.03kN)	51	26	R50	42	M5×0.8 DP6	10.5	22	10	0.4

Specifications are subject to change without notice.

Miniature Compression Load Cell

> Model CMM104

Compression Load Cell.
These load cells are extremely small and lightweight.



> SPECIFICATIONS

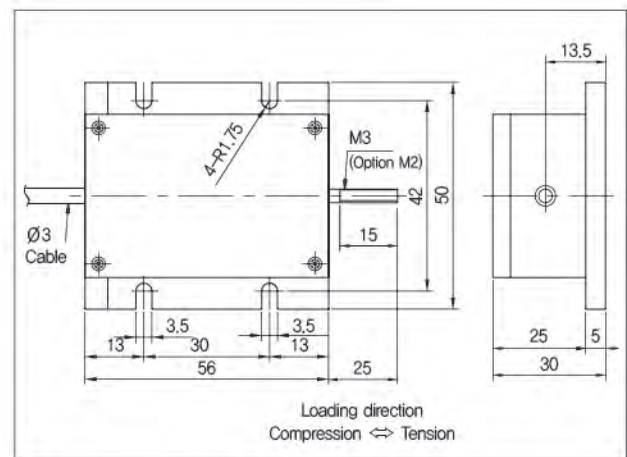
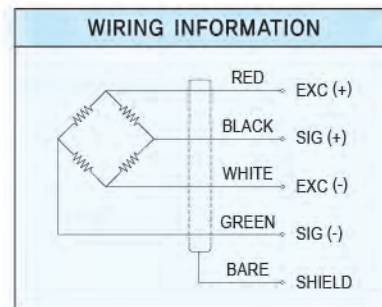
Specifications	Accuracy
Rated capacity(R.C)	3tf
Rated output(R.O)	0.7 ~ 1.2mV/V
Nonlinearity	1% of R.O.
Hysteresis	1% of R.O.
Repeatability	1% of R.O.
Zero balance	±5% of R.O.
Temperature effect on rated output	0.05% of LOAD/10°C
Temperature effect on zero balance	0.05% of R.O./10°C
Temperature range, compensated	-10°C to 60°C
Temperature range, safe	-20°C to 70°C
Terminal resistance, input	350Ω ± 35Ω
Terminal resistance, output	350Ω ± 10Ω
Insulation resistance bridge to ground	2000MΩ
Excitation recommended	5V
Safe overload	150% R.C.
Cable length	Ø3mm 4core, 3m

* Specifications are subject to change without notice.

Small Capacity Compression & Tension Load Cell

> Model US

A low capacity, universal, bending beam load cell.
The US is excellent when small force measurements are required.
A push-pull type.



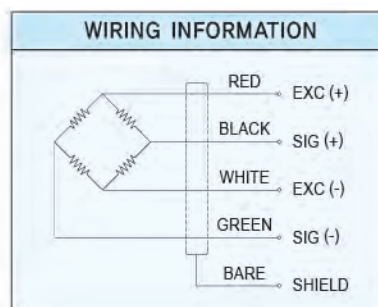
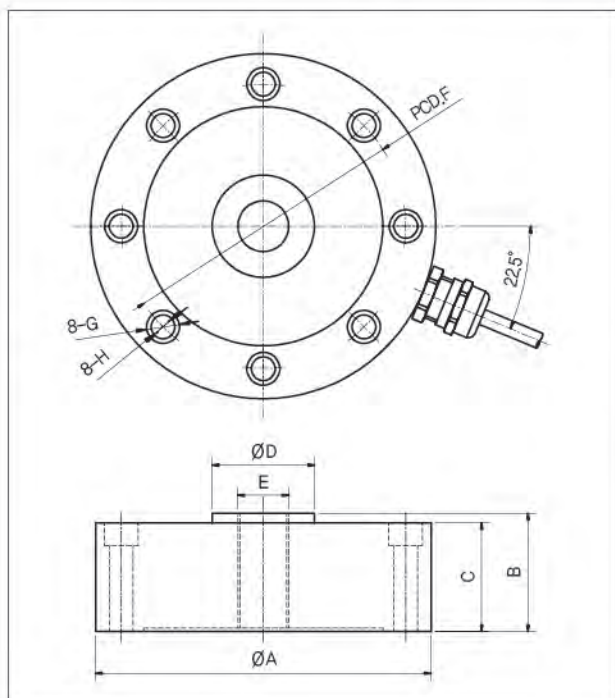
> SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C)	5N (500gf), 9.8N (1kgf), 19.61N (2kgf)
Rated output(R.O)	1.0mV/V ± 25%
Nonlinearity	0.2% R.O.
Hysteresis	0.2% R.O.
Repeatability	0.2% R.O.
Zero balance	±0.2% of R.O.
Temperature effect on rated output	0.5% of LOAD/10°C
Temperature effect on zero balance	0.5% of R.O./10°C
Temperature range, compensated	0°C to 50°C
Temperature range, safe	-10°C to 60°C
Terminal resistance, input	350Ω ± 40Ω
Terminal resistance, output	350Ω ± 40Ω
Insulation resistance bridge/case	2000MΩ
Excitation recommended	5V
Safe overload	150% R.C.
Cable length	Ø3mm 4core, 3m

Low Profile Compression Load Cell

> Model UL277

Pancake type load cell.
Alloy steel construction.
High accuracy, Low profile, Easy to install.
Protected against corrosion by nickel plated treatment
Suitable for testing machine and hopper scales, etc.



> SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C)	1t, 2t, 3t, 5t, 10t, 15t, 20t, 25t, 30t
Rated output(R.O)	2mV/V $\pm$ 0.5%
Nonlinearity	0.05% of R.O.
Hysteresis	0.05% of R.O.
Repeatability	0.05% of R.O.
Zero balance	$\pm$ 1% of R.O.
Temperature effect on rated output	$\pm$ 0.05% of LOAD/10°C
Temperature effect on zero balance	$\pm$ 0.05% of R.O./10°C
Temperature range, compensated	-10°C to 60°C
Temperature range, safe	-20°C to 80°C
Terminal resistance, input	700 Ω $\pm$ 10 Ω
Terminal resistance, output	700 Ω $\pm$ 5 Ω
Insulation resistance bridge	2000M Ω
Excitation recommended	10V
Safe overload	150% R.C.
Cable length	Ø5mm 4core, 3m

> DIMENSIONS TABLE

unit:mm

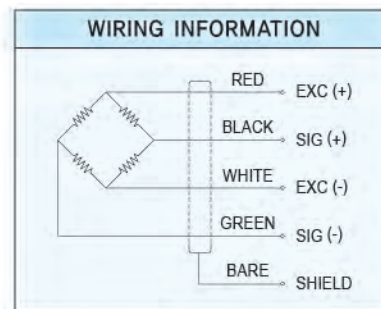
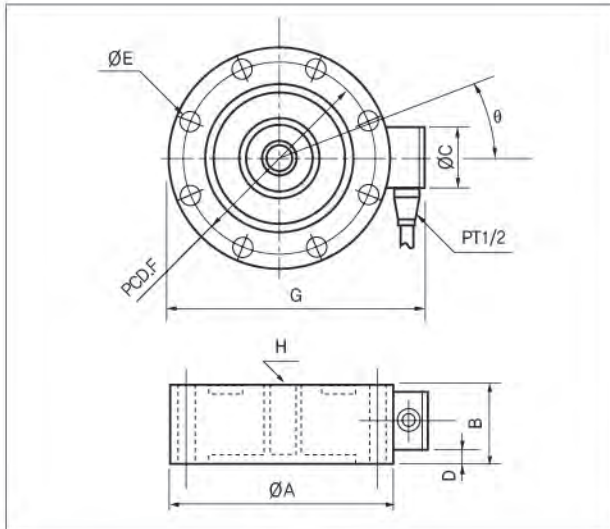
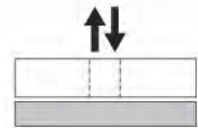
Capacity	ØA	B	C	ØD	E	F	G	H
1t, 2t, 3t, 5t	105	37	34	32	M16×1.5	89	Ø10.5 DP 7.2	Ø7.5
10t, 15t, 20t, 25t	120.6	53.5	41	39	M32×1.5	101.8	Ø14 DP 10.5	Ø8.5
30t	141	57.2	50.8	50.4	M40×1.5	116.8	Ø18 DP11	Ø11

★ Specifications are subject to change without notice.

Low Profile Tension or Compression Load Cells

> Model UL

Applicable for both compression and tension methods.
Being tough against twisting momentum, most suitable for load fatigue testing repeat test of load etc.
UL : Painted finished steel, Protection Class IP67.
ULH : Nikel planted steel



>SPECIFICATIONS

Specifications	Accuracy	
	UL	ULH
Rated capacity(R.C)	500kgf, 1tf, 2tf, 3tf, 5tf, 10tf, 20tf, 30tf, 50tf, 100tf, 200tf, 300tf, 500tf	500kgf, 1tf, 2tf, 3tf, 5tf, 10tf, 20tf, 50tf
Rated output(R.O)	2mV/V $\pm$ 0.1%	2mV/V $\pm$ 0.1%
Nonlinearity	0.05% of R.O.(100tf~500tf : 0.5%)	0.02% of R.O.
Hysteresis	0.05% of R.O.(100tf~500tf : 0.5%)	0.02% of R.O.
Repeatability	0.05% of R.O.(100tf~500tf : 0.5%)	0.02% of R.O.
Zero balance	$\pm$ 2% of R.O.	$\pm$ 2% of R.O.
Temperature effect on rated output	0.05% LOAD/10°C	0.03% LOAD/10°C
Temperature effect on zero balance	0.05% R.O./10°C	0.03% R.O./10°C
Temperature range, compensated	-10°C to 60°C	-10°C to 60°C
Temperature range, safe	-20°C to 80°C	-20°C to 80°C
Terminal resistance, input	700 Ω $\pm$ 50 Ω	700 Ω $\pm$ 50 Ω
Terminal resistance, output	700 Ω $\pm$ 3 Ω	700 Ω $\pm$ 3 Ω
Insulation resistance bridge/case	2000M Ω	2000M Ω
Excitation recommended	10V	10V
Safe overload	150% R.C.	150% R.C.
Cable length	$\varnothing$ 7mm, 4 Core, 3m	$\varnothing$ 7mm, 4 Core, 3m

>DIMENSIONS TABLE

unit:mm

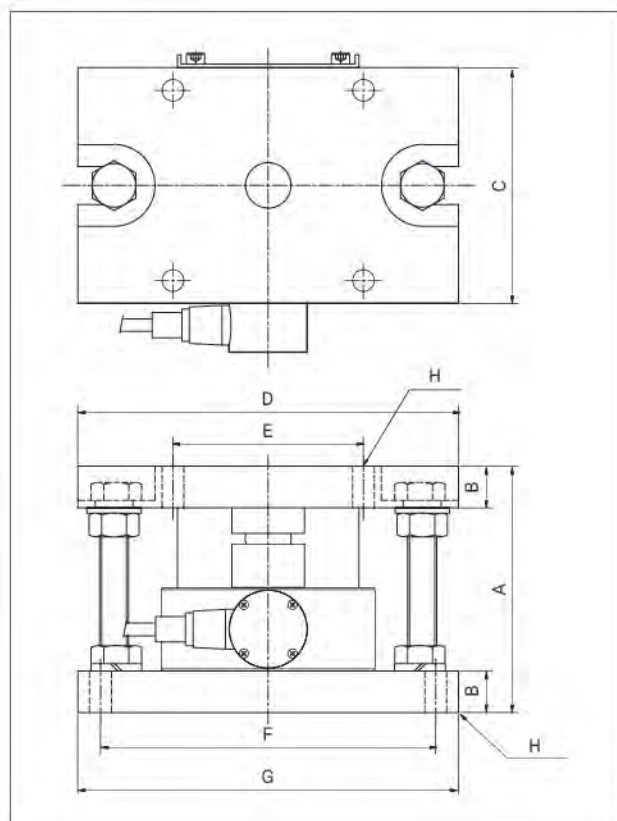
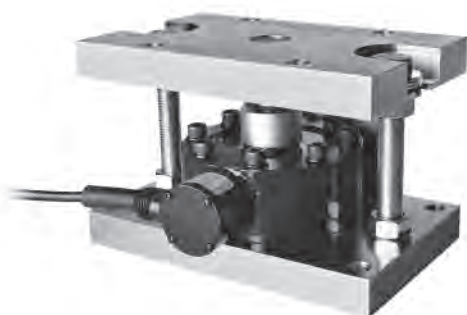
Model	Capacity	ØA	B	ØC	D	E	F	G	H	Weight(kg)
UL, ULH	UL-500kgf (4.903kN)	88	25	22	1.5	6- $\varnothing$ 6.5 hole	75	108	M12×1.25	1
	UL-1tf (9.807kN)	118	46	43	1.5	8- $\varnothing$ 9 hole	100	153	M18×1.5	3
	UL-2tf (19.61kN)	118	46	43	1.5	8- $\varnothing$ 9 hole	100	153	M18×1.5	
	UL-3tf (29.42kN)	118	46	43	1.5	8- $\varnothing$ 9 hole	100	153	M18×1.5	
	UL-5tf (49.03kN)	118	46	43	1.5	8- $\varnothing$ 9 hole	100	153	M18×1.5	
	UL-10tf (98.07kN)	178	65	43	11	8- $\varnothing$ 13 hole	155	215	M24×2	9
	UL-20tf (196.1kN)	178	65	43	11	8- $\varnothing$ 13 hole	155	215	M39×2	
	UL-50tf (490.3kN)	226	100	43	28.5	12- $\varnothing$ 18 hole	190	266	M50×2	
	UL-100tf (980.7kN)	310	130	43	43.5	16- $\varnothing$ 22 hole	260	350	M76×3	
	UL-200tf (1.961MN)	380	170	43	63	16- $\varnothing$ 38 hole	315	420	M100×3	90
	UL-300tf (2.942MN)	450	200	50	75	16- $\varnothing$ 45 hole	365	490	M140×3	180
	UL-500tf (4.903MN)	496	300	70	115	16- $\varnothing$ 52 hole	420	536	M180×3	245

* Specifications are subject to change without notice.

Weighing Module

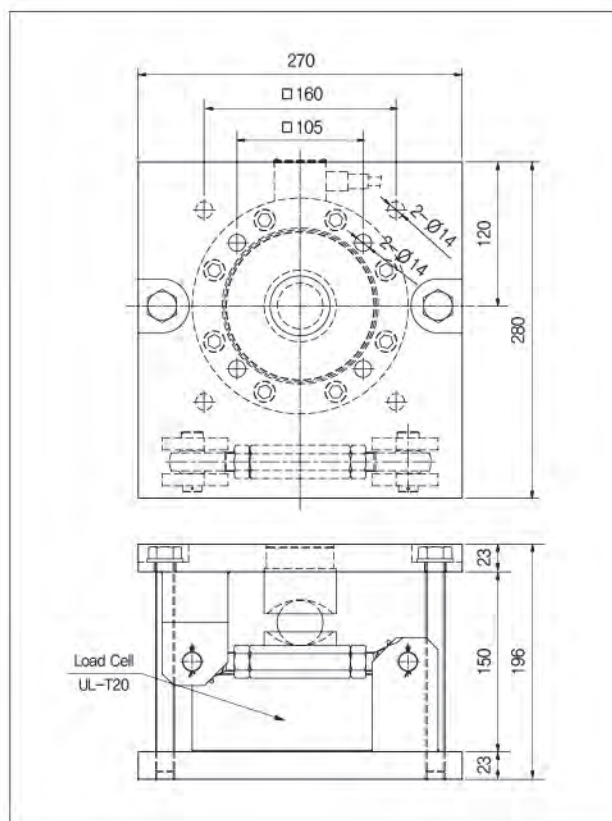
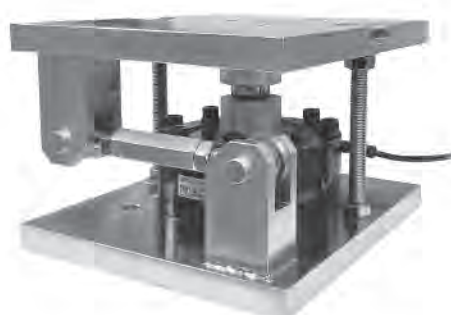
> Weighing Module ULI-20

- High Durability
- Appropriate for Tank and Hopper application
- Designed with safety Coefficient considerations
- Prevention of separation by the bolt



> Weighing Module ULI-30

- High Durability
- Appropriate for Tank and Hopper application
- Designed with safety Coefficient considerations
- Prevention of separation by the bolt
- Adjustment for the exact position by check rod



> DIMENSIONS TABLE (ULI20)

unit:mm

Capacity	A	B	C	D	E	F	G	H
1tf, 2tf, 3tf, 5tf	136	23	130	210	105×105	185×105	210	4-Ø12
10tf, 120tf, 30tf	196	30	200	270	105×105	160×160	270	4-Ø14

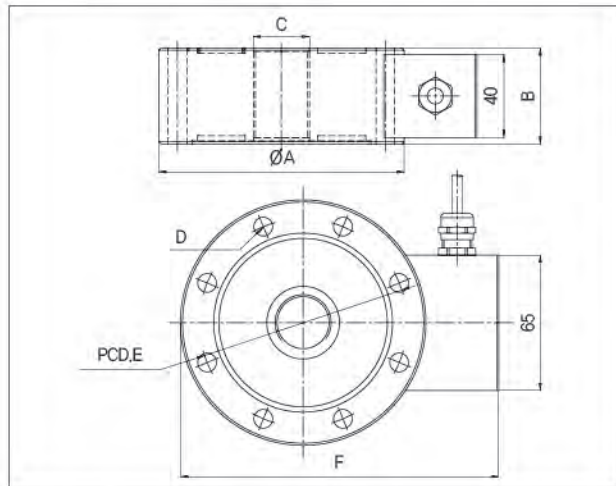
★ Specifications are subject to change without notice.

Low Profile Tension or Compression Load Cells

Tension Load Cells

> Model UL272

Applicable for both compression and tension methods.
Hermetically sealed.
Suitable for load fatigue testing.



>SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C)	1tf, 2tf, 3tf, 4tf, 5tf, 7tf, 8tf, 14tf
Rated output(R.O)	2mV/V $\pm$ 0.1%
Nonlinearity	0.1% of R.O.
Hysteresis	0.1% of R.O.
Repeatability	0.05% of R.O.
Zero balance	$\pm$ 2% of R.O.
Temperature effect on rated output	0.05% LOAD/10 $^{\circ}$ C
Temperature effect on zero balance	0.05% R.O./10 $^{\circ}$ C
Temperature range, compensated	-10 $^{\circ}$ C to 60 $^{\circ}$ C
Temperature range, safe	-20 $^{\circ}$ C to 70 $^{\circ}$ C
Terminal resistance, input	700 Ω $\pm$ 50 Ω
Terminal resistance, output	700 Ω $\pm$ 3 Ω
Insulation resistance bridge/case	2000M Ω
Excitation recommended	10V
Safe overload	150% R.C.
Cable length	$\varnothing$ 7mm, 4 Core, 3m

>DIMENSIONS TABLE

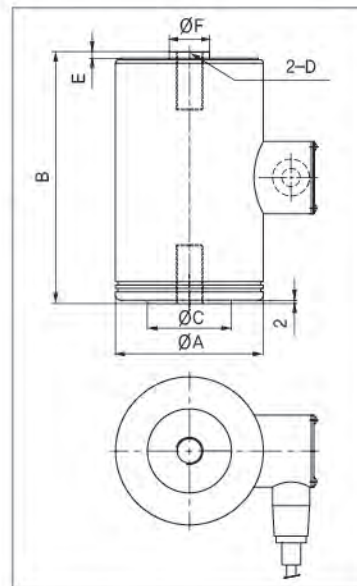
Model	Capacity	A	B	C	D	E	F
UL272	UL272-1tf, 2tf, 3tf, 4tf, 5tf	118	46	M27 $\times$ 2	8- $\varnothing$ 9 hole	100	153
	UL272-7tf, 8tf	144	55	M27 $\times$ 2	8- $\varnothing$ 11 hole	120	178
	UL272-14tf	157	64	M39 $\times$ 2	8- $\varnothing$ 14 hole	135	192
TX61	TX61-K200, 200Kgf	88	150	50	M16 $\times$ 1.5 DP35	4	24
	TX61-T1, 1tf	88	150	50	M18 $\times$ 2 DP35	4	24
	TX61-T10, 10tf	137	200	66	M27 $\times$ 2 DP35	8	62
	TX61-T25, 25tf	137	200	66	M52 $\times$ 2 DP35	8	62

◆ Specifications are subject to change without notice.

> Model TX61

The TX61 series load cells are designed for measuring tensile loads up to 25 tonnes.
high-alloy tool steel construction for excellent repeatability.

- Hermetically sealed
- Robust high capacity design



>SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C)	200kgf, 1tf, 10tf, 25tf,
Rated output(R.O)	2.0mV/V $\pm$ 1%
Nonlinearity	0.1% of R.O.
Hysteresis	0.1% of R.O.
Repeatability	0.1% of R.O.
Zero balance	$\pm$ 1% of R.O.
Temperature effect on rated output	0.1% LOAD/10 $^{\circ}$ C
Temperature effect on zero balance	0.1% R.O./10 $^{\circ}$ C
Temperature range, compensated	-10 $^{\circ}$ C to 60 $^{\circ}$ C
Temperature range, safe	-20 $^{\circ}$ C to 80 $^{\circ}$ C
Terminal resistance, input	350 Ω $\pm$ 5 Ω
Terminal resistance, output	350 Ω $\pm$ 5 Ω
Insulation resistance bridge/case	5000M Ω
Excitation recommended	10V
Safe overload	150% R.C.
Cable length	$\varnothing$ 7mm, 4 Core, 3m

unit:mm

Tension Load Cells

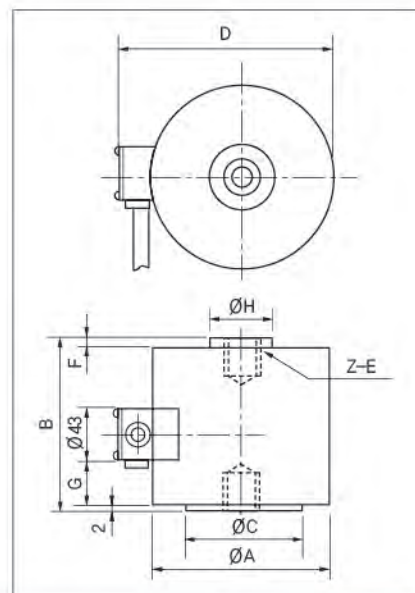
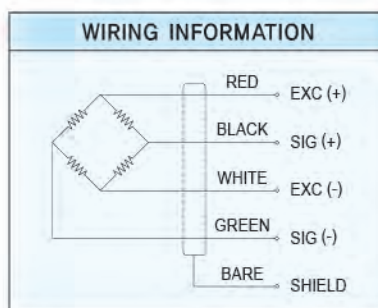
> Model TX

High Accuracy Tension Service, Hopper, Tank Weighing.

Protection Class IP67

TX, TX61 : Painted finished steel.

TXH : Nikel planted steel



> SPECIFICATIONS

Specifications	Accuracy	
	TXH	TX
Rated capacity(R.C)	1tf, 2tf, 5tf, 10tf, 20tf	100kgf, 200kgf, 500kgf, 1tf, 2tf, 3tf, 5tf, 10tf, 20tf, 50tf, 100tf
Rated output(R.O)	2.0mV/V $\pm$ 0.1%	2.0mV/V $\pm$ 0.1% (50tf~100tf 1.5mV/V)
Nonlinearity	0.02% of R.O.	$\leq$ 0.1% of R.O.
Hysteresis	0.02% of R.O.	$\leq$ 0.1% of R.O.
Repeatability	0.02% of R.O.	$\leq$ 0.1% of R.O.
Zero balance	$\pm$ 1% of R.O.	$\pm$ 1% of R.O.
Temperature effect on rated output	0.03% LOAD/10 $^{\circ}$ C	0.1% LOAD/10 $^{\circ}$ C
Temperature effect on zero balance	0.03% R.O./10 $^{\circ}$ C	0.1% R.O./10 $^{\circ}$ C
Temperature range, compensated	-10 $^{\circ}$ C to 60 $^{\circ}$ C	-10 $^{\circ}$ C to 60 $^{\circ}$ C
Temperature range, safe	-20 $^{\circ}$ C to 80 $^{\circ}$ C	-20 $^{\circ}$ C to 80 $^{\circ}$ C
Terminal resistance, input	350 Ω $\pm$ 5 Ω	350 Ω $\pm$ 5 Ω
Terminal resistance, output	350 Ω $\pm$ 5 Ω	350 Ω $\pm$ 5 Ω
Insulation resistance bridge/case	5000M Ω	5000M Ω
Excitation recommended	10V	10V
Safe overload	150% R.C.	150% R.C.
Cable length	Ø7mm, 4 Core, 3m	Ø7mm, 4 Core, 3m

> DIMENSIONS TABLE

unit:mm

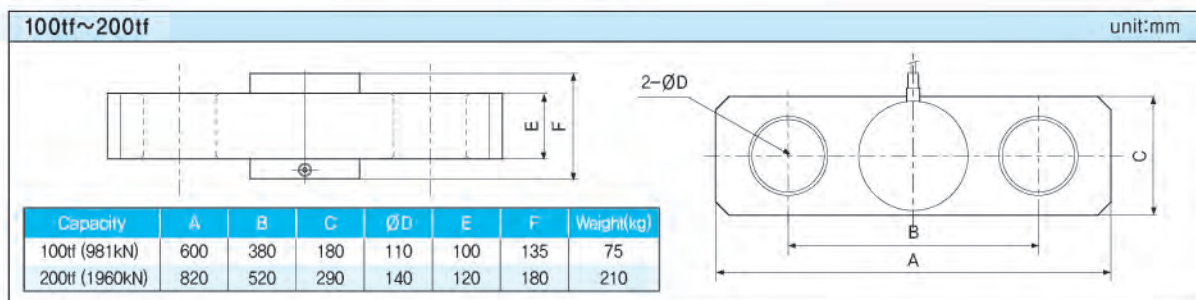
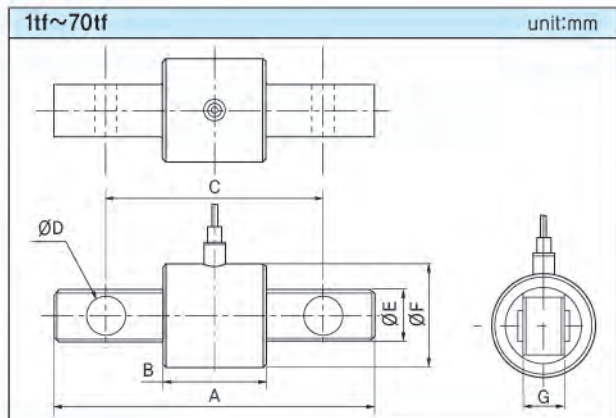
Model	Capacity	ØA	B	ØC	D	E	F	G	ØH	Weight(kg)
TXH, TX	TX-100kgf (980.7N)	88	107	50	118	M12 $\times$ 1.25 DP15	4	25	24	3
	TX-200kgf (1.961kN)	88	107	50	118	M12 $\times$ 1.25 DP15	4	25	24	
	TX-500kgf (4.903kN)	88	107	50	118	M12 $\times$ 1.25 DP15	4	25	24	
	TX-1tf (9.807kN)	88	107	50	118	M12 $\times$ 1.25 DP15	4	25	24	
	TX-2tf (19.61kN)	88	150	66	118	M24 $\times$ 2 DP30	5	42	30	5
	TX-3tf (29.42kN)	88	150	66	118	M24 $\times$ 2 DP30	5	42	30	
	TX-5tf (49.03kN)	88	150	66	118	M24 $\times$ 2 DP30	5	42	30	
	TX-10tf (98.07kN)	137	220	66	167	M39 $\times$ 2 DP50	8	65	62	
	TX-20tf (196.1kN)	137	240	66	167	M50 $\times$ 2 DP65	8	75	62	11
	TX-50tf (490.3kN)	213	410	130	245	M76 $\times$ 3 DP115	25	140	116	
	TX-100tf (980.7kN)	267	500	192	315	M100 $\times$ 3 DP150	25	250	196	

Specifications are subject to change without notice.

Tension Load Cell

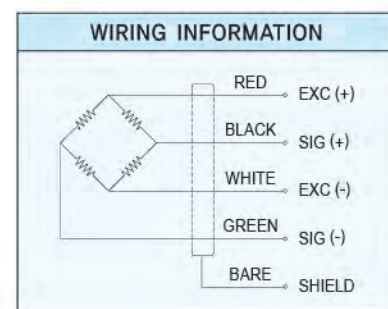
> Model TS21

Crane Weighing, Tower Testing,
Tension Load cell,
Option : Connector cable type.



>SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C)	1tf, 2tf, 3tf, 5tf, 10tf, 20tf, 30tf, 50tf, 70tf, 100tf, 200tf
Rated output(R.O)	1mV/V 0.5%
Nonlinearity	0.5% of R.O.
Hysteresis	0.1% of R.O.
Repeatability	0.1% of R.O.
Zero balance	±1% of R.O.
Temperature effect on rated output	0.1% of LOAD/10℃
Temperature effect on zero balance	0.05% of R.O./10℃
Temperature range, compensated	-10℃ to 60℃
Temperature range, safe	-20℃ to 80℃
Terminal resistance, input	350Ω ±10Ω
Terminal resistance, output	350Ω ±5Ω
Insulation resistance bridge/case	2000MΩ
Excitation recommended	10V
Safe overload	150% R.C.
Cable length	Ø7mm 4core, 10m



>DIMENSIONS TABLE

unit:mm

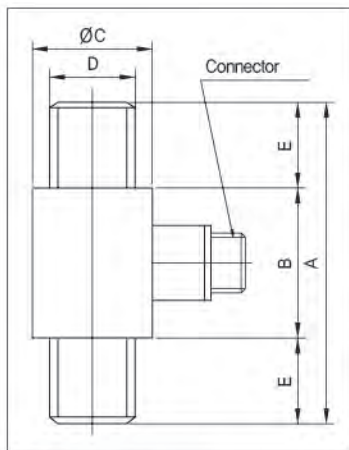
Capacity	A	B	C	ØD	ØE	ØF	G	Weight(kg)
1tf (9.81kN)	140	70	110	18	32	50	20	2
2tf (19.6kN)	163	70	120	22	39	50	25	
3tf (29.4kN)	180	63	128	27	49	60	30	
5tf (49.0kN)	234	80	168	37	59	70	40	3.5
10tf (98.1kN)	310	100	210	37	89	100	40	9
20tf (196kN)	400	120	285	62	120	135	70	23
30tf (294kN)	428	128	288	64	120	135	75	26
50tf (490kN)	508	148	342	75	145	160	98	43
70tf (686kN)	620	150	410	100	170	210	100	68

★ Specifications are subject to change without notice.

Compression & Tension Load Cell

> Model TX25

Model TX25 load cells measure both tension & compression load force. Applications include performance testers for automotive industry.



> SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C)	100kgf~300tf (981N~2.942MN)
Rated output(R.O)	1mV/V±1%
Nonlinearity	0.15% of R.O.
Hysteresis	0.15% of R.O.
Repeatability	0.1% of R.O.
Creep	0.05% of R.O.
Zero balance	±1% of R.O.
Temperature effect on rated output	±0.01% of LOAD/10℃
Temperature effect on zero balance	±0.02% of R.O./10℃
Temperature range, compensated	-10℃ to 60℃
Temperature range, safe	-20℃ to 80℃
Terminal resistance, input	350Ω ±5%
Terminal resistance, output	350Ω ±5%
Insulation resistance bridge	2000MΩ
Excitation recommended	10V
Safe overload	120% R.C.
Cable length	Ø5mm, 4core, 3m.

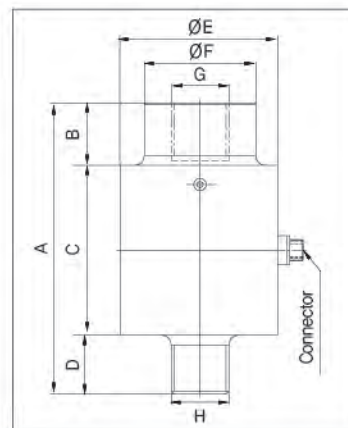
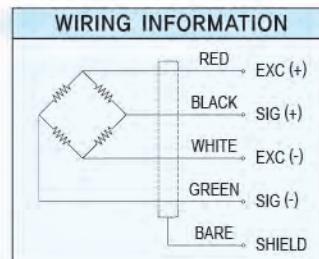
> DIMENSIONS TABLE

unit:mm

Model	Capacity	A	B	ØC	D	E	Weight(kg)
TX25-K100	100kgf (980.7N)	75	35	28	M16×1.5	20	0.5
TX25-K200	200kgf (1,961kN)	75	35	28	M16×1.5	20	
TX25-K500	500kgf (4,903kN)	75	35	28	M16×1.5	20	
TX25-T1	1tf (9,807kN)	75	35	28	M20×1.5	20	
TX25-T2	2tf (19,61kN)	75	35	28	M20×1.5	20	
TX25-T3	3tf (29,42kN)	75	35	28	M20×1.5	20	0.7
TX25-T5	5tf (49,03kN)	75	35	33	M24×2	20	
TX25-T10	10tf (98,07kN)	170	100	62.5	M39×2	35	2.5
TX25-T20	20tf (196,1kN)	190	90	63	M39×2	50	2.8
TX25-T50	50tf (490,3kN)	245	105	85	M64×2	70	7.5
TX25-T100	100tf (980,7kN)	340	140	115	M80×2	100	18
TX25-T200	200tf (1,961MN)	390	160	150	M110×2	115	36
TX25-T300	300tf (2,942MN)	450	194	169	M125×4	128	46

> Model TB25

Tension & compression load force.



> SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C)	1tf~300tf (9,807kN~2,942MN)
Rated output(R.O)	1~20tf : 1mV/V±2%, 50~300tf : 1.5mV/V±2%
Nonlinearity	0.15% of R.O.
Hysteresis	0.15% of R.O.
Repeatability	0.1% of R.O.
Creep	0.05% of R.O.
Zero balance	±1% of R.O.
Temperature effect on rated output	±0.03% of LOAD/10℃
Temperature effect on zero balance	±0.03% of R.O./10℃
Temperature range, compensated	-10℃ to 50℃
Temperature range, safe	-20℃ to 70℃
Terminal resistance, input	350Ω ±5%
Terminal resistance, output	350Ω ±5%
Insulation resistance bridge	2000MΩ
Excitation recommended	10V
Safe overload	120% R.C.
Cable length	Ø5mm, 4core, 3m

> DIMENSIONS TABLE

unit:mm

Model	Capacity	A	B	C	D	ØE	ØF	G	H	Weight(kg)
TB25-T1	1tf (9,807kN)	75	25.5	24.5	25	30	28	M20X1,5DP20	M20X1.5	0.5
TB25-T2	2tf (19,61kN)	75	25.5	24.5	25	30	28	M20X1,5DP20	M20X1.5	
TB25-T5	5tf (49,03kN)	173	30	100	43	55.5	42	M27X1,5DP40	M27X1.5	3
TB25-T10	10tf (98,07kN)	173	30	100	43	62.5	42	M27X1,5DP40	M27X1.5	
TB25-T20	20tf (196,1kN)	195	62.5	87.5	45	62.5	52	M33X2DP53	M33X2	5
TB25-T50	50tf (490,3kN)	295	50	190	55	120	78	M48X2DP55	M48X2	15
TB25-T100	100tf (980,7kN)	355	80	200	75	176	116	M72X6DP75	M72X2	35
TB25-T150	150tf (1,470MN)	385	125	170	90	150	130	M90X6DP90	M90X2	30
TB25-T200	200tf (1,961MN)	465	135	220	110	190	170	M110X6DP115	M110X2	58
TB25-T300	300tf (2,942MN)	496	143	200	153	200	185	M125X4DP125	M125X2	80

Specifications are subject to change without notice.

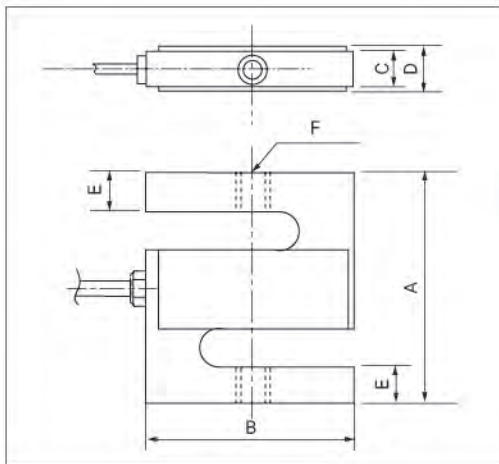
Universal Load Cell

> Model UU

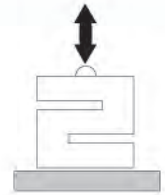
Compact size.

These are extremely accurate and compact Tension/Compression load cell.

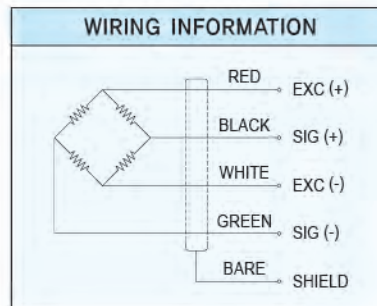
- 2kg~200kgf : Anodized Aluminum.
- 500kg~10tf : Nikel planted steel



500kg~10tf



2kg~200kgf



> SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C)	2kg, 5kg, 10kgf, 20kgf, 25kgf, 50kgf, 100kgf, 200kgf, 250kgf, 300kgf, 500kgf, 1tf, 2tf, 3tf, 5tf, 10tf
Rated output(R.O)	2.0mV/V $\pm$ 1% (2kgf, 5kgf : 1.5mV/V $\pm$ 1%)
Nonlinearity	0.03% of R.O.
Hysteresis	0.03% of R.O.
Repeatability	0.03% of R.O.
Zero balance	$\pm$ 2% of R.O.
Temperature effect on rated output	0.05% of LOAD/10 $^{\circ}$ C
Temperature effect on zero balance	0.1% of R.O./10 $^{\circ}$ C
Temperature range, compensated	-10 $^{\circ}$ C to 60 $^{\circ}$ C
Temperature range, sale	-20 $^{\circ}$ C to 80 $^{\circ}$ C
Terminal resistance, input	350 Ω $\pm$ 50 Ω
Terminal resistance, output	350 Ω $\pm$ 2 Ω
Insulation resistance bridge	2000M Ω
Excitation recommended	10V
Sale overload	150% R.C.
Cable length	2kg~5kg : $\varnothing$ 3mm 4core, 3m / 10kg~10tf : $\varnothing$ 5mm 4core, 3m

> DIMENSIONS TABLE

unit:mm

Capacity	A	B	C	D	E	F	Weight(kg)
2kgf (19.61N)	60	50	13	16	10	M6 $\times$ 1	0.4
5kgf (49.03N)	60	50	13	16	10	M6 $\times$ 1	
10kgf (98.07N)	70	52	13	18	13	M6 $\times$ 1	
20kgf (196.1N)	70	52	13	18	13	M6 $\times$ 1	
25kgf (245N)	70	52	13	18	13	M6 $\times$ 1	
50kgf (490.3N)	70	52	18	24	13	M12 $\times$ 1.75	
100kgf (980.7N)	70	52	18	24	13	M12 $\times$ 1.75	0.8
200kgf (1.961kN)	70	52	18	24	13	M12 $\times$ 1.75	
300kgf (2.9412kN)	70	52	18	24	13	M12 $\times$ 1.75	
500kgf (4.903kN)	70	62	22	25	15	M12 $\times$ 1.75	2
1tf (9.807kN)	70	62	22	25	15	M12 $\times$ 1.75	
2tf (19.61kN)	96	84	30	35	21	M20 $\times$ 1.5	
3tf (29.42kN)	120	96	35	41	30	M24 $\times$ 2	3
5tf (49.03kN)	120	96	40	44	30	M24 $\times$ 2	
10tf (98.07kN)	165	140	60	66	46	M39 $\times$ 2	8.5

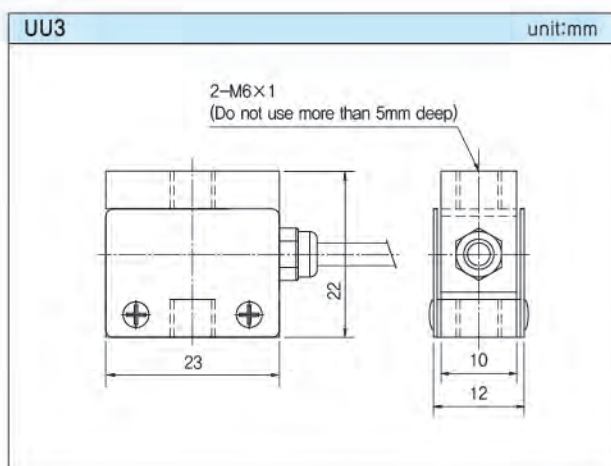
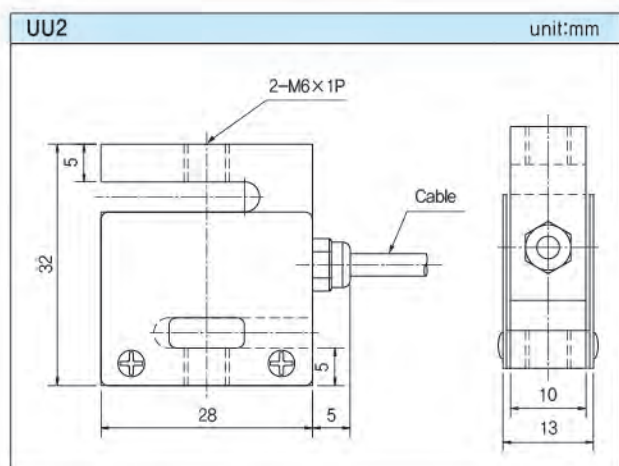
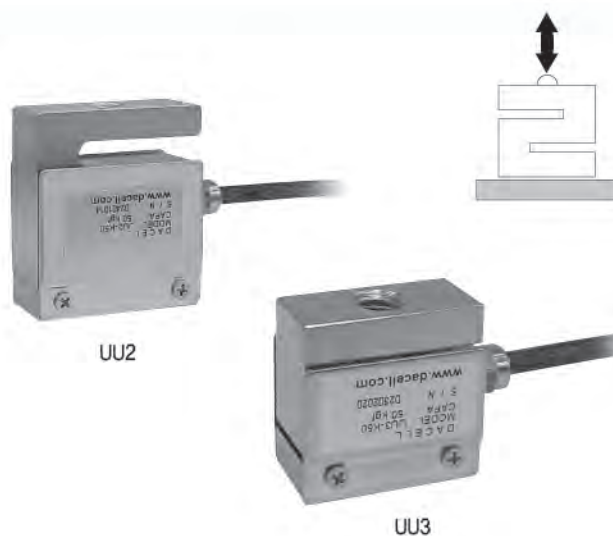
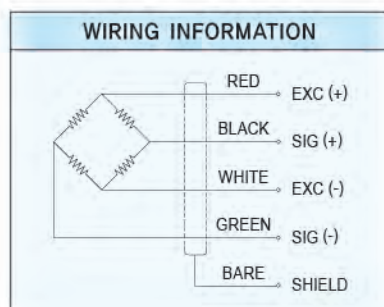
*Specifications are subject to change without notice.

Universal Load Cell

> Model UU2, UU3

Compact size.

These are extremely accurate and compact Tension/Compression load cell.



> SPECIFICATIONS

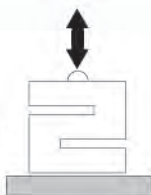
Specifications	Accuracy	
	UU2	UU3
Rated capacity(R.C)	5kgf, 10kgf, 20kgf, 30kgf, 50kgf, 100kgf	5kgf, 10kgf, 20kgf, 50kgf, 100kgf
Rated output(R.O)	2mV/V±25%	2mV/V±25%
Nonlinearity	0.05% of R.O.	0.05% of R.O.
Hysteresis	0.05% of R.O.	0.05% of R.O.
Repeatability	0.05% of R.O.	0.05% of R.O.
Zero balance	±1% of R.O.	±2% of R.O.
Temperature effect on rated output	0.1% LOAD/10°C	0.1% LOAD/10°C
Temperature effect on zero balance	0.1% R.O./10°C	0.1% R.O./10°C
Temperature range, compensated	-10°C to 60°C	-10°C to 60°C
Temperature range, safe	-20°C to 80°C	-20°C to 80°C
Terminal resistance input	350Ω ±80Ω	350Ω ±80Ω
Terminal resistance output	350Ω ±2Ω	350Ω ±2Ω
Insulation resistance bridge/case	2000MΩ	2000MΩ
Excitation recommended	10V	10V
Safe overload	150% R.C.	150% R.C.
Material	10~30kgf : Aluminum/50~100kgf Steel	5~20kgf : Aluminum/50~100kgf Steel
Cable length	Ø3mm, 4core, 3m	Ø3mm, 4core, 3m

◆ Specifications are subject to change without notice.

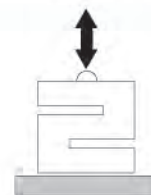
Universal Load Cell

> Model UU74

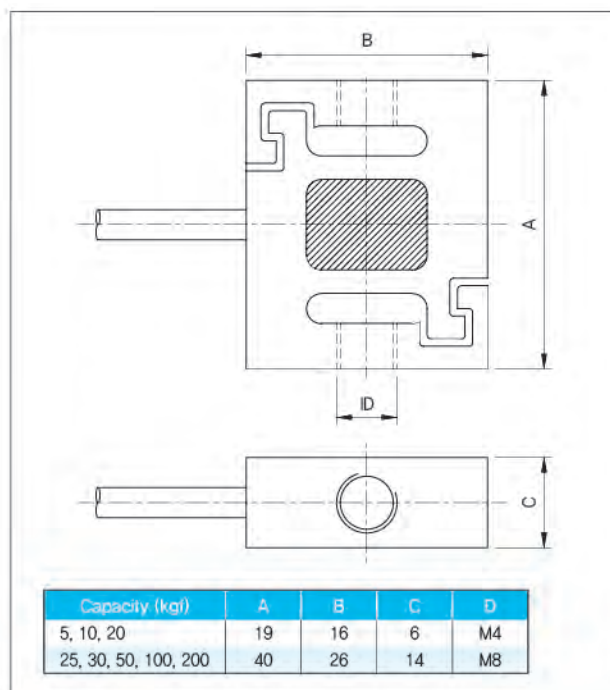
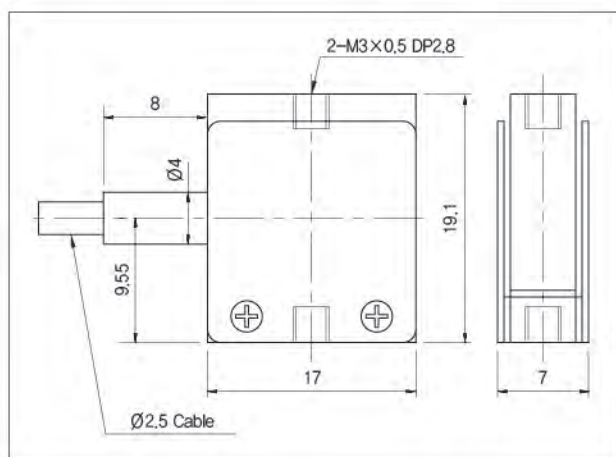
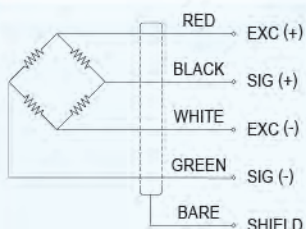
Compact size.
Accurate Tension/Compression load cell.



> Model UU90



WIRING INFORMATION



> SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C)	20N, 50N, 100N, 200N
Rated output(R.O)	1.5mV/V±25%
Nonlinearity	0.1% R.O.
Hysteresis	0.1% R.O.
Repeatability	0.1% R.O.
Zero balance	±3% of R.O.
Temperature effect on rated output	0.1% of LOAD/10°C
Temperature effect on zero balance	0.1% of R.O./10°C
Temperature range, compensated	-10°C to 60°C
Temperature range, safe	-20°C to 80°C
Terminal resistance, input	350Ω ±50Ω
Terminal resistance, output	350Ω ±5Ω
Insulation resistance bridge/case	2000MΩ
Excitation recommended	5V
Safe overload	150% R.C.
Cable length	Ø2.5mm 4core, 1.5m

* Specifications are subject to change without notice.

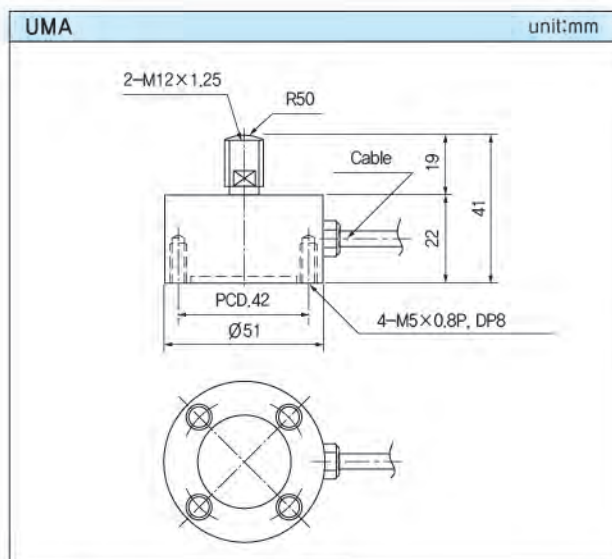
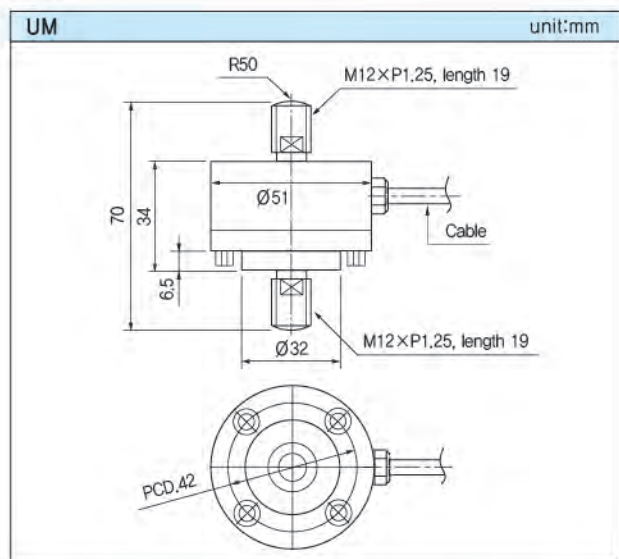
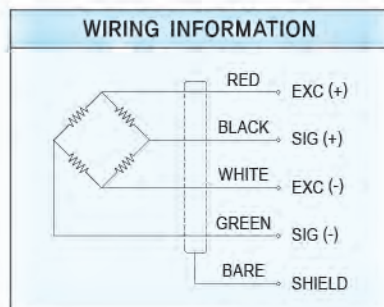
> SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C)	5kgf, 10kgf, 20kgf, 25kgf, 30kgf, 50kgf, 100kgf, 200kgf
Rated output(R.O)	2mV/V±25%
Nonlinearity	0.1% R.O.
Hysteresis	0.1% R.O.
Repeatability	0.1% R.O.
Zero balance	±3% of R.O.
Temperature effect on rated output	0.1% of LOAD/10°C
Temperature effect on zero balance	0.1% of R.O./10°C
Temperature range, compensated	-10°C to 60°C
Temperature range, safe	-20°C to 80°C
Terminal resistance, input	350Ω ±50Ω
Terminal resistance, output	350Ω ±2Ω
Insulation resistance bridge/case	2000MΩ
Excitation recommended	5V
Safe overload	150% R.C.
Cable length	Ø2.4mm 4core, 3m

Miniature Compression & Tension Load Cells

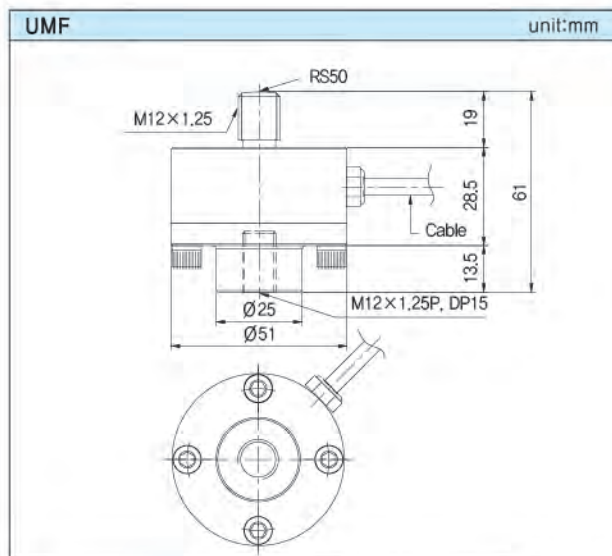
> Model UM, UMA, UMF

Compression or Tension load cell.
These load cells are extremely small and lightweight.
Protection Class IP66



> SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C)	50kgf, 100kgf, 200kgf, 500kgf, 1tf, 2tf (490.3N, 980.7N, 1.961kN, 4.903kN, 9.807kN, 19.61kN)
Rated output(R.O)	2mV/V $\pm$ 0.4%
Nonlinearity	0.15% R.O.
Hysteresis	0.1% R.O.
Repeatability	0.05% R.O.
Zero balance	$\pm$ 2% of R.O.
Temperature effect on rated output	0.1% of LOAD/10°C
Temperature effect on zero balance	0.05% of R.O./10°C
Temperature range, compensated	-10°C to 70°C
Temperature range, safe	-10°C to 80°C
Terminal resistance, input	350 Ω $\pm$ 50 Ω
Terminal resistance, output	350 Ω $\pm$ 2 Ω
Insulation resistance bridge/case	2000M Ω
Excitation recommended	10V
Safe overload	150% R.C.
Cable length	Ø5mm 4core, 3m



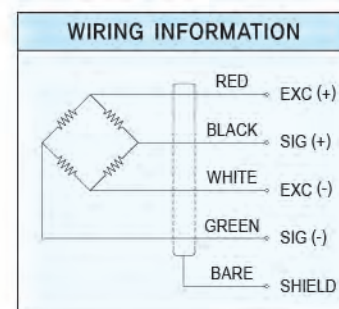
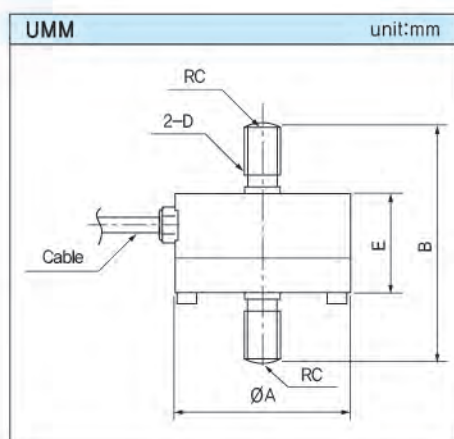
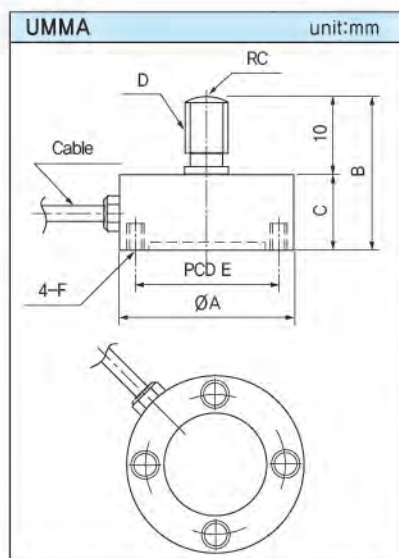
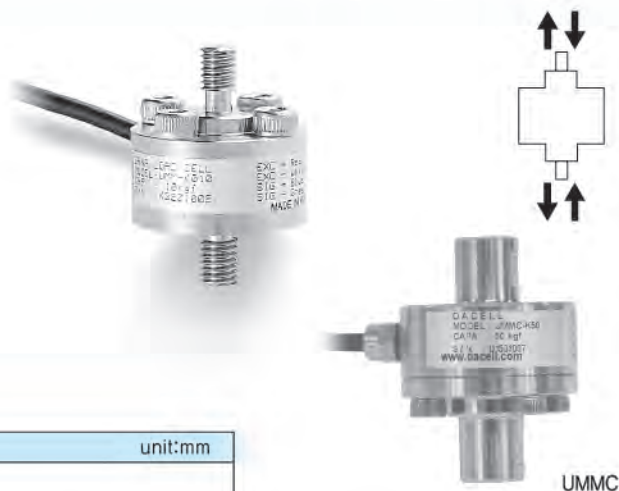
Specifications are subject to change without notice.

Miniature Compression & Tension Load Cells

> Model UMM, UMMA, UMMC

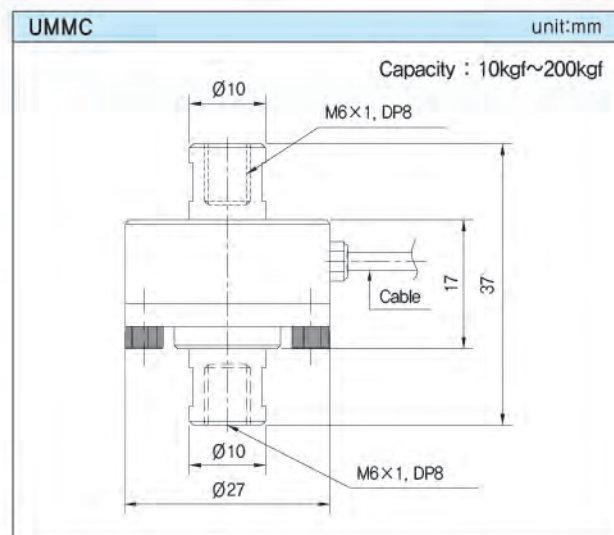
Compression or Tension load cell.

These load cells are extremely small and lightweight.
Protection Class IP66



> SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C)	1kgf, 2kgf, 5kgf, 10kgf, 20kgf, 50kgf, 100kgf, 200kgf
Rated output(R.O)	0.7~1.2mV/V
Nonlinearity	0.5% R.O.
Hysteresis	0.5% R.O.
Repeatability	0.5% R.O.
Zero balance	±2% of R.O.
Temperature effect on rated output	0.1% of LOAD/10°C
Temperature effect on zero balance	0.05% of R.O./10°C
Temperature range, compensated	-10°C to 60°C
Temperature range, safe	-10°C to 80°C
Terminal resistance, input	350Ω ±30Ω
Terminal resistance, output	350Ω ±2Ω
Insulation resistance bridge/case	2000MΩ
Excitation recommended	5V
Safe overload	120% R.C.
Cable length	Ø3mm 4core, 3m



> DIMENSIONS TABLE(UMMA/UMM)

unit:mm

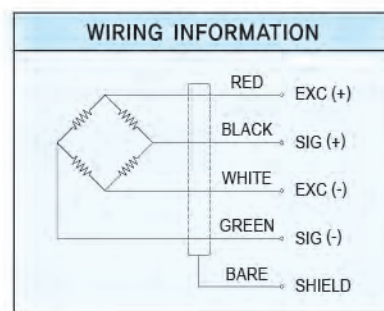
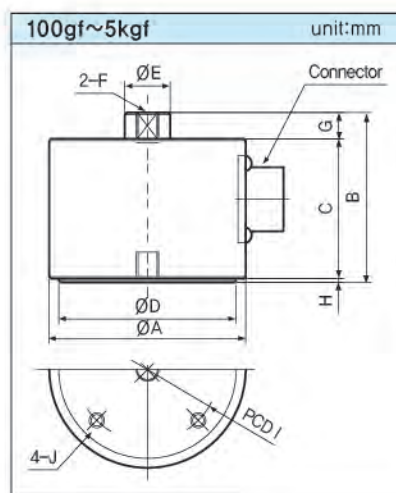
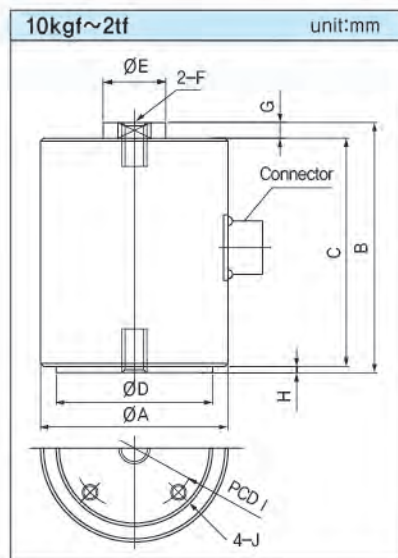
Capacity	UMMA						UMM				
	A	B	C	D	E	F	A	B	RC	D	E
1kgf (9.807N)	23	20	10	M3×0.5	18	M3DP5	23	34	—	M3×0.5	14
2kgf (19.61N)	23	20	10	M3×0.5	18	M3DP5	23	34	—	M3×0.5	14
5kgf (49.03N)	23	20	10	M3×0.5	18	M3DP5	23	34	—	M3×0.5	14
10kgf (98.07N)	27	21	11	M6×1	22	M3DP5	27	37	30	M6×1	17
20kgf (196.1N)	27	21	11	M6×1	22	M3DP5	27	37	30	M6×1	17
50kgf (490.3N)	27	21	11	M6×1	22	M3DP5	27	37	30	M6×1	17
100kgf (980.7N)	27	21	11	M6×1	22	M3DP5	27	37	30	M6×1	17
200kgf (1.961kN)	27	21	11	M6×1	22	M3DP5	27	37	30	M6×1	17

* Specifications are subject to change without notice.

Miniature Compression & Tension Load Cell

> Model UMI

Model UMI load cells measure both tension & compression load force of 100gf to 2tf. High accuracy, high output Voltage and tight tolerance provides excellent reliability. Applications include performance testers for automotive industry.



>SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C)	100gf, 200gf, 500gf, 1kgf, 2kgf, 5kgf, 10kgf, 20kgf, 50kgf, 100kgf, 200kgf, 500kgf, 1tf, 2tf
Rated output(R.O)	2mV/V $\pm$ 1% (100gf~5kgf=1mV/V)
Nonlinearity	0.03% of R.O.
Hysteresis	0.03% of R.O.
Repeatability	0.03% of R.O.
Zero balance	$\pm$ 2% of R.O.
Temperature effect on rated output	0.1% of LOAD/10°C
Temperature effect on zero balance	0.05% of R.O./10°C
Temperature range, compensated	-10°C to 50°C
Temperature range, safe	-20°C to 80°C
Terminal resistance	350 Ω $\pm$ 1%
Insulation resistance bridge	2000M Ω
Excitation recommended	10V (100gf~5kgf=5V)
Safe overload	120% R.C.
Cable length	$\varnothing$ 5 $\pm$ 0.5mm 4core, 3m

>DIMENSIONS TABLE

Capacity	ØA	B	C	ØD	ØE	F	G	H	I	J	Weight(kg)
100gf (0.980N)	52	45	37	47	10.5	M4X0.7DP8	7	1	38	4-M4 DP6	0.5
200gf (1.961N)	52	45	37	47	10.5	M4X0.7DP8	7	1	38	4-M4 DP6	
500gf (4.903N)	52	45	37	47	10.5	M4X0.7DP8	7	1	38	4-M4 DP6	
1kgf (9.807N)	52	45	37	47	12	M6X1.0DP8	7	1	38	4-M4 DP6	
2kgf (19.61N)	52	45	37	47	12	M6X1.0DP8	7	1	38	4-M4 DP6	
5kgf (49.03N)	52	45	37	47	12	M6X1.0DP8	7	1	38	4-M4 DP6	
10kgf (98.07N)	60	80	73	50	20	M12X1.75DP15	5	2	40	4-M5 DP10	1
20kgf (196.1N)	60	80	73	50	20	M12X1.75DP15	5	2	40	4-M5 DP10	
50kgf (490.3N)	60	80	73	50	20	M12X1.75DP15	5	2	40	4-M5 DP10	
100kgf (980.7N)	60	80	73	50	20	M12X1.75DP15	5	2	40	4-M5 DP10	
200kgf (1.961kN)	60	80	73	50	20	M12X1.75DP15	5	2	40	4-M5 DP10	
500kgf (4.903kN)	60	80	73	50	20	M12X1.75DP15	5	2	40	4-M5 DP10	
1tf (9.807kN)	60	80	73	50	20	M12X1.75DP15	5	2	40	4-M5 DP10	2
2tf (19.61kN)	88	110	102	80	36	M18X1.5DP22	5	3	55	4-M6 DP12	3

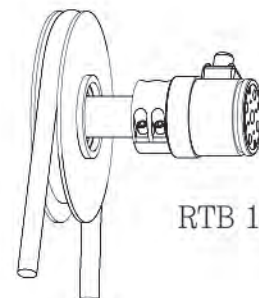
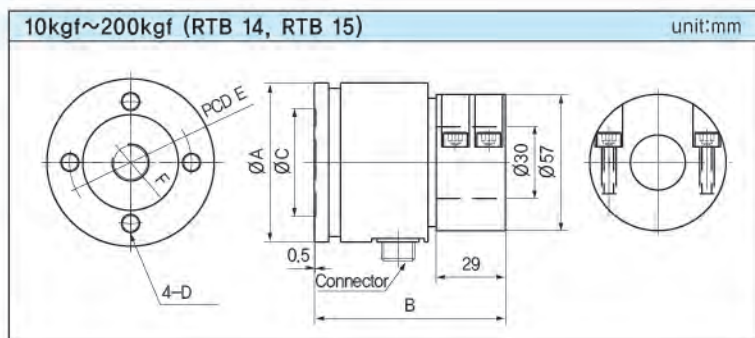
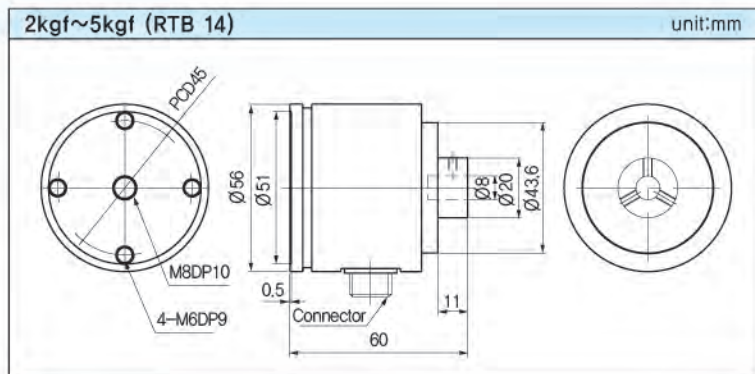
Specifications are subject to change without notice.

Web Tension Load Cells

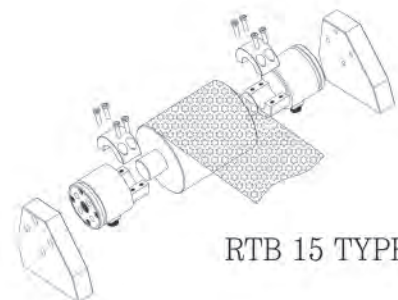
> Model RTB14, RTB15

Model RTB14, RTB15 loadcell measure the wire and roll tension.

Web tension indicator : DN300 (2 ch, Total display)



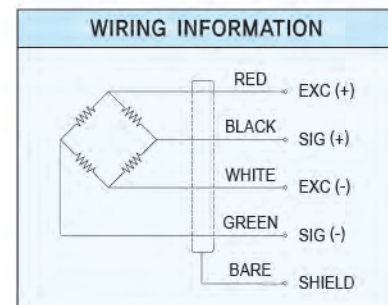
RTB 14 TYPE



RTB 15 TYPE

> SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C)	2kgf, 5kgf, 10kgf, 20kgf, 50kgf, 100kgf, 200kgf
Rated output(R.O)	1mV/V±1%
Nonlinearity	0.1% of R.O.
Hysteresis	0.1% of R.O.
Repeatability	0.1% of R.O.
Temperature range, compensated	-10℃ to 70℃
Temperature range, safe	-10℃ to 80℃
Terminal resistance, input	350Ω ±30Ω
Terminal resistance, output	350Ω ±2Ω
Insulation resistance bridge	2000MΩ
Excitation recommended	10V
Safe overload	120% R.C.
Cable length	Ø5±0.3mm 4core, 3m



> DIMENSIONS TABLE (RTB14)

unit:mm

Capacity	A	B	ØC	D	E	F
10kgf (98.07N)	Ø60	80	50	M5DP15	45	M12
20kgf (196.1N)	Ø60	80	50	M5DP15	45	M12
50kgf (490.3N)	Ø60	80	50	M5DP15	45	M12
100kgf (980.7N)	Ø66.5	85	60	M8DP15	51	M16
200kgf (1,961kN)	Ø66.5	85	60	M8DP15	51	M16

> DIMENSIONS TABLE (RTB15)

unit:mm

Capacity	A	B	ØC	D	E	F
10kgf (98.07N)	Ø60	93.5	50	M5DP15	45	M12
20kgf (196.1N)	Ø60	93.5	50	M5DP15	45	M12
50kgf (490.3N)	Ø60	93.5	50	M5DP15	45	M12
100kgf (980.7N)	Ø66.5	102	60	M8DP15	51	M16
200kgf (1,961kN)	Ø66.5	102	60	M8DP15	51	M16

Specifications are subject to change without notice.

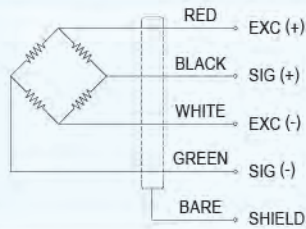
Web Tension Load Cells

> Model RTB6

Wire tension load cell.

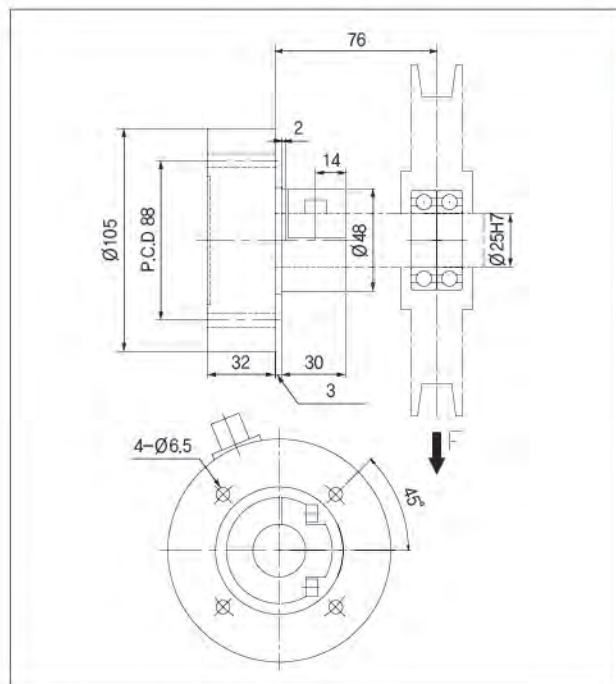
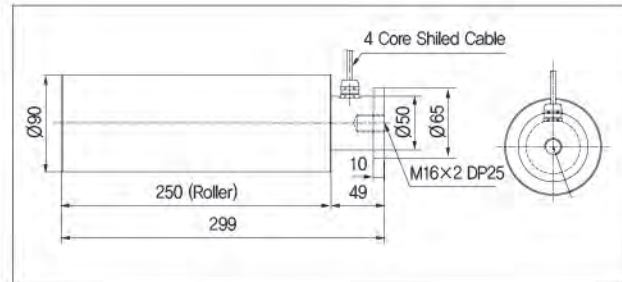


WIRING INFORMATION



> Model RTB21

Bearing is mounted and the road is rotated and measured.
Easy to install.



>SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C)	20kgf
Rated output(R.O)	2.0mV/V±1%
Nonlinearity	0.05% of R.O.
Repeatability	0.05% of R.O.
Zero balance	±5% R.O.

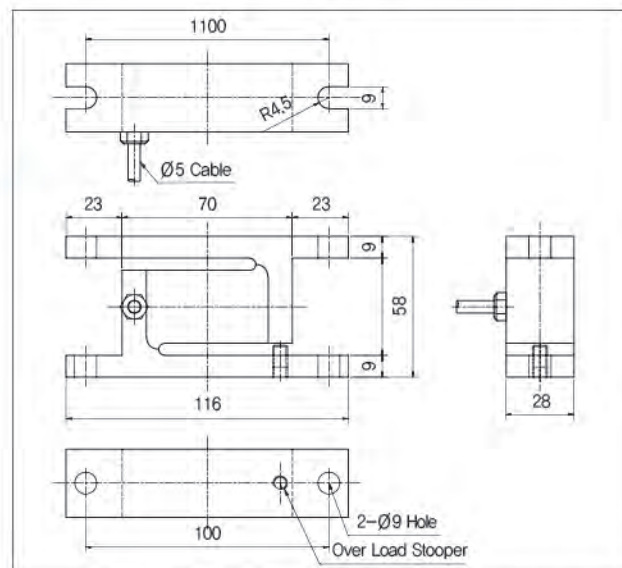
> Model CS262-K200

Suitable to control Tension.
• Order made load cell.



>SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C)	50kgf
Rated output(R.O)	1.5mV/V±1%
Nonlinearity	0.2% of R.O.
Repeatability	0.2% of R.O.
Temperature range, compensated	-10°C to 70°C
Temperature range, safe	-10°C to 80°C
Terminal resistance, input	350Ω ±30Ω
Terminal resistance, output	350Ω ±2Ω
Insulation resistance bridge	2000MΩ
Excitation recommended	10V
Safe overload	120% R.C.
Cable length	Ø5±0.3mm 4core, 3m



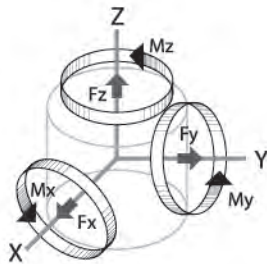
• Specifications are subject to change without notice.

Multi Component Load Cell

> Model MC15

Various capacity of detecting up to components.
Minimize interaction between components.

- Order made – Size, Capacity



2-Component loadcells

(Force : N, Moment : N-m)

Model		Rated Capacity					
		Fx	Fy	Fz	Mx	My	Mz
MC15-2A	50	50	50	(100)	(10)	(10)	(10)
	100	100	100	(200)	(20)	(20)	(20)
	200	200	200	(500)	(50)	(50)	(50)
	500	500	500	(750)	(100)	(100)	(100)
MC15-2B	50	50	(100)	50	(10)	(10)	(10)
	100	100	(200)	100	(20)	(20)	(20)
	200	200	(500)	200	(50)	(50)	(50)
	500	500	(750)	500	(100)	(100)	(100)

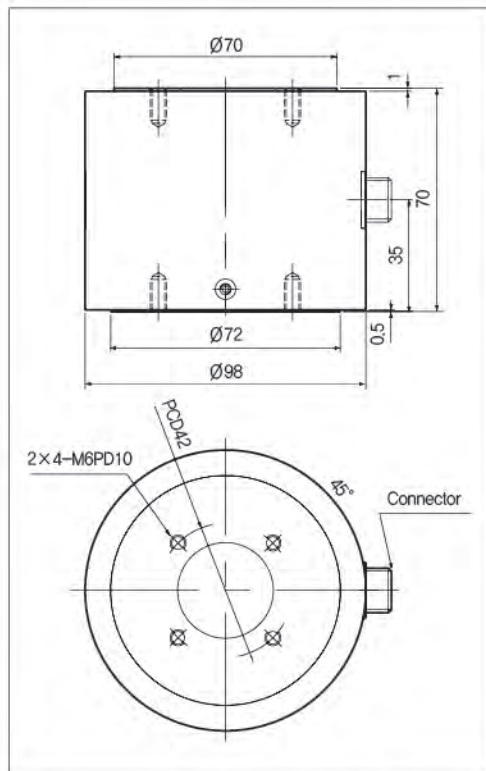
※ () Allowable force & Moment

3-Component loadcells

(Force : N, Moment : N-m)

Model		Rated Capacity					
		Fx	Fy	Fz	Mx	My	Mz
MC15-3A	50	50	50	50	(10)	(10)	(10)
	100	100	100	100	(20)	(20)	(20)
	200	200	200	200	(50)	(50)	(50)
	500	500	500	500	(100)	(100)	(100)
MC15-3B	50	50	50	(10)	(10)	(10)	5
	100	100	100	(20)	(20)	(20)	10
	200	200	200	(50)	(50)	(50)	20
	500	500	500	(100)	(100)	(100)	50
MC15-3C	50	50	(100)	50	(10)	5	(10)
	100	100	(200)	100	(20)	10	(20)
	200	200	(500)	200	(50)	20	(50)
	500	500	(750)	500	(100)	50	(100)

※ () Allowable force & Moment



- Dimensions can be modified by consumer's request.
- Dimensions are subject to change without notice.

> SPECIFICATIONS

Specifications	Accuracy
Rated output(R.O)	0.5mV/V±1%
Nonlinearity	0.5% of R.O.
Hysteresis	0.5% of R.O.
Repeatability	0.3% of R.O.
Temperature effect on rated output	±0.03% of LOAD/10℃
Temperature effect on zero balance	±0.03% of R.O./10℃
Terminal resistance, input/output	700Ω ±3.5Ω
Insulation resistance bridge/case	2000MΩ
Excitation recommended	10V
Safe overload	120% R.C.
Cable length	Ø7mm 8core, 3m
Degree of interference	±3% of R.O.

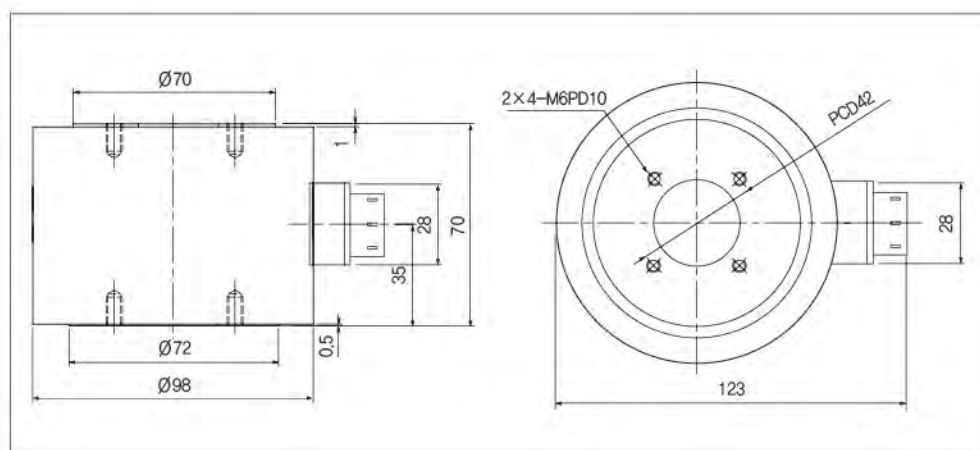
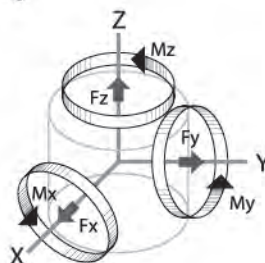
- Specifications are subject to change without notice.

Multi Component Load Cell (6 axis)

> Model MC134-6A

This is loadcell of simple construction for torque and axial force detection. Provided with a flange for easy installation. Most suitable for use in materials testing machines.

- Order made – Size, Capacity



>SPECIFICATIONS

Specifications	Accuracy
Rated output(R.O)	0.5mV/V $\pm$ 1%
Nonlinearity	0.5% of R.O.
Hysteresis	0.5% of R.O.
Repeatability	0.3% of R.O.
Temperature effect on rated output	$\pm$ 0.03% of LOAD/10 $^{\circ}$ C
Temperature effect on zero balance	$\pm$ 0.03% of R.O./10 $^{\circ}$ C
Terminal resistance, input	700 Ω $\pm$ 20 Ω
Terminal resistance, output	700 Ω $\pm$ 15 Ω
Insulation resistance bridge/case	2000M Ω
Excitation recommended	10V
Safe overload	120% R.C.
Cable length	Ø7mm 14core, 3m
Degree of interference	$\pm$ 3% of R.O.

>DIMENSIONS TABLE

(Force : N, Moment : N-m)

Model		Rated Capacity					
		Fx	Fy	Fz	Mx	My	Mz
MC134-6A	50	50	50	50	5	5	5
	100	100	100	100	10	10	10
	200	200	200	200	20	20	20
	500	500	500	500	50	50	50

• Specifications are subject to change without notice.

Gear Shifting Lever Load Cell

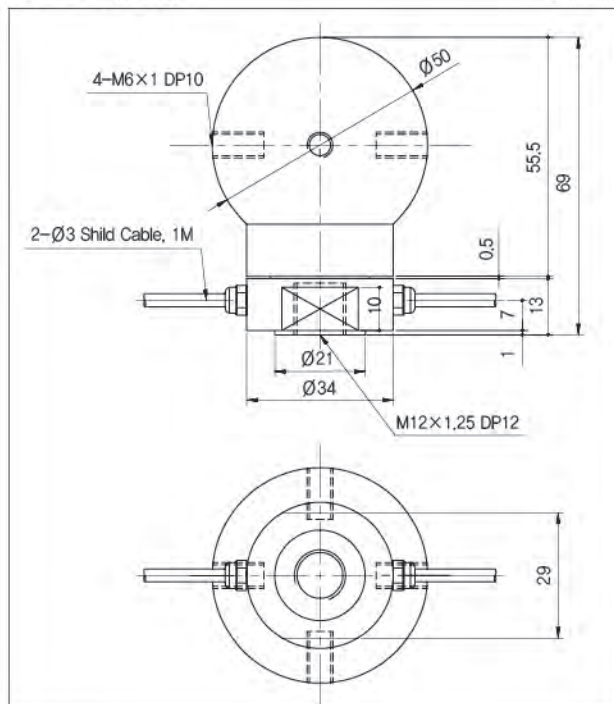
> Model CS201

This can measure X and Y force of Gear shifting lever.



>DIMENSIONS

unit:mm



>SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C)	500N
Rated output(R.O)	1.5mV/V±1%
Nonlinearity	0.1% of R.O.
Hysteresis	0.1% of R.O.
Repeatability	0.05% of R.O.
Temperature range, compensated	-10℃ to 40℃
Temperature range, safe	-20℃ to 60℃
Temperature effect on rated output	±0.02% of LOAD/10℃
Temperature effect on zero balance	±0.02% of R.O./10℃
Terminal resistance, input	350Ω ±30%
Terminal resistance, output	350Ω ±2%
Insulation resistance bridge/case	2000MΩ
Excitation recommended	10V
Cable length	Ø3mm 4core, 3m

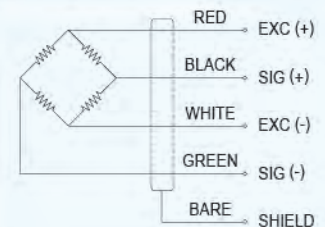
◆ Specifications are subject to change without notice.

> Model CS142

This can measure X and Y force of Gear shifting lever.

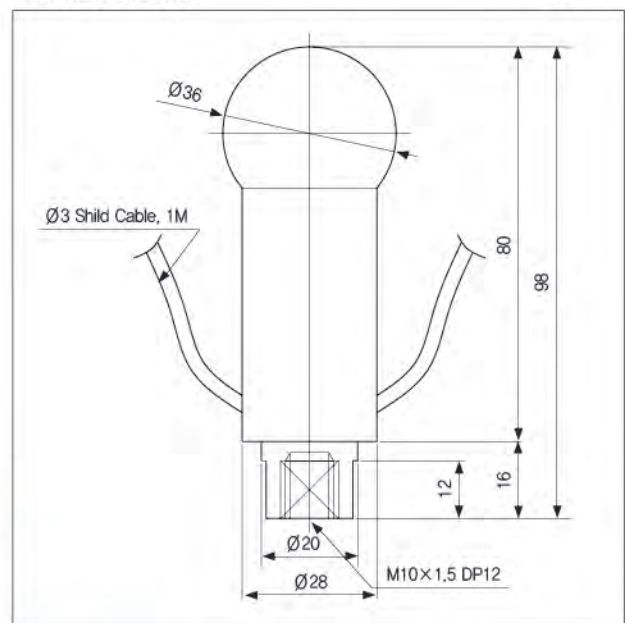


WIRING INFORMATION



>DIMENSIONS

unit:mm



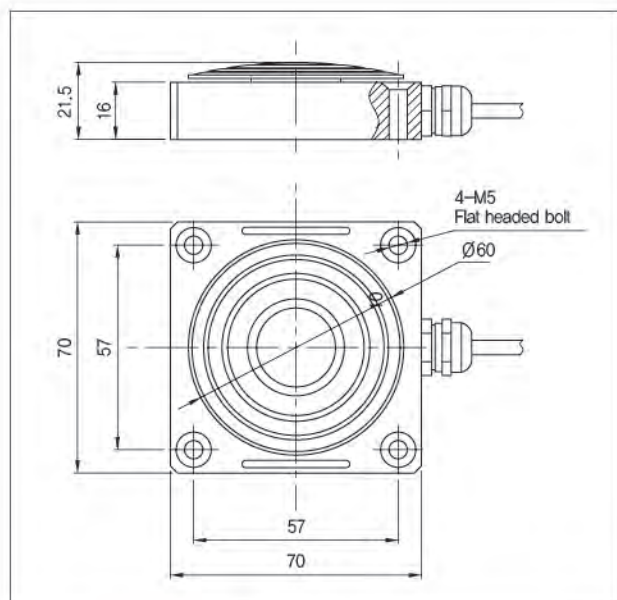
>SPECIFICATIONS (CS142-500N)

Specifications	Accuracy
Rated capacity(R.C)	500N
Rated output(R.O)	1mV/V±1%
Nonlinearity	1% of R.O.
Hysteresis	1% of R.O.
Terminal resistance, input/output	350Ω ±1%
Safe overload	120% R.C.

Pedal Effort Load Cell

> Model CS285

Made of aluminum alloy material.
Used to measure the brake pedal force in the car development industry.
Protection Class IP65

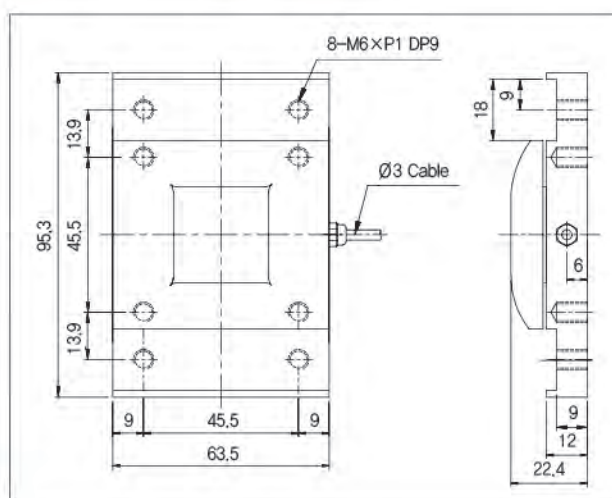
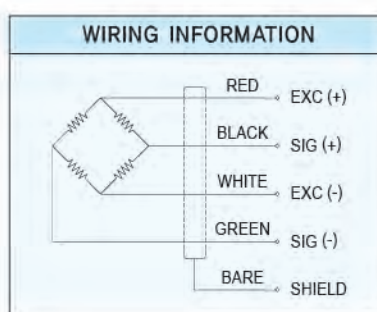


> SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C)	1000N, 2000N
Rated output(R.O)	1.5mV/V $\pm$ 10%
Nonlinearity	$\leq$ 0.5% of R.O.
Hysteresis	0.1% of R.O.
Repeatability	0.1% of R.O.
Creep(30min)	0.2% of R.O.
Zero balance	$\pm$ 2% of R.O.
Temperature effect on rated output	0.05% of LOAD/10 $^{\circ}$ C
Temperature effect on zero balance	0.03% of R.O./10 $^{\circ}$ C
Temperature range, compensated	-10 $^{\circ}$ C to 60 $^{\circ}$ C
Temperature range, safe	-20 $^{\circ}$ C to 80 $^{\circ}$ C
Terminal resistance, input	700 $\pm$ 30 Ω
Terminal resistance, output	700 $\pm$ 10 Ω
Insulation resistance bridge	2000M Ω
Excitation recommended	10V
Excitation maximum	15V
Safe overload	120% R.C.
Ultimate overload	200% R.O.
Cable length	Ø5mm 4core, 3m

> Model CS187

Pedal effort load cell
Small and light weight



> SPECIFICATIONS

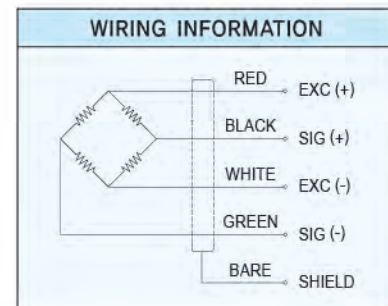
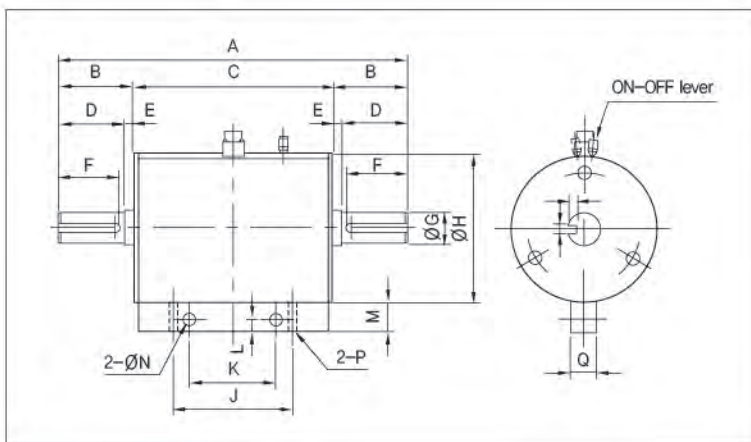
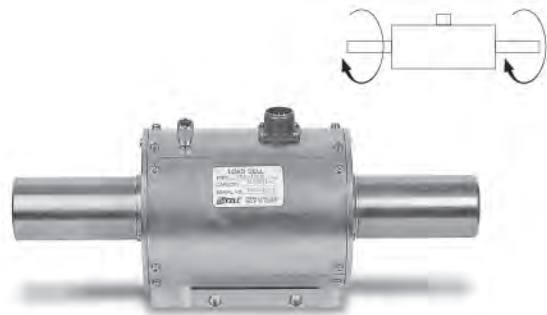
Specifications	Accuracy
Rated capacity(R.C)	120kgf
Rated output(R.O)	1.2mV/V $\pm$ 1%
Nonlinearity	0.15% of R.O.
Hysteresis	0.15% of R.O.
Repeatability	0.15% of R.O.
Zero balance	$\pm$ 1% of R.O.
Temperature effect on rated output	$\pm$ 0.02% of LOAD/10 $^{\circ}$ C
Temperature effect on zero balance	$\pm$ 0.02% of R.O./10 $^{\circ}$ C
Temperature range, compensated	-10 $^{\circ}$ C to 50 $^{\circ}$ C
Terminal resistance, input	700 $\pm$ 10 Ω
Terminal resistance, output	700 $\pm$ 5 Ω
Insulation resistance bridge to ground	2000M Ω
Excitation recommended	10V
Safe overload	150% R.C.
Electrical connection	Ø3mm 4core, 40cm

Specifications are subject to change without notice.

Shaft Type Torque Sensors

> Model TRA

Model TRA load cell measure the torque of continuous rotating object. Platinum coated connector provides long term signal stability and high accuracy. These models are most appropriate for industrial measurement. Applications include the performance testers for automotive components such as clutches, transmissions, motors and pumps.



> SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C)	1~300kgf-m (9,807N-m~2,942kN-m)
Rated output(R.O)	1.5mV/V $\pm$ 1% (1~5kgf-m: 1mV/V)
Nonlinearity	0.3% of R.O.
Hysteresis	0.2% of R.O.
Repeatability	0.3% of R.O.
Temperature effect on rated output	0.2% of LOAD/10°C
Temperature effect on zero balance	0.3% of R.O./10°C
Terminal resistance	350 Ω $\pm$ 1%
Insulation resistance bridge	200M Ω
Excitation recommended	10V
Safe overload	120% R.C.
Cable length	Ø7mm, 4core, 3m

> DIMENSIONS TABLE

unit:mm

Model	Capacity	A	B	C	D	E	F	ØG	ØH	J	K	L	M	N	P	Q	R	R.P.M	Weight(kg)
TRA-1K	1kgf-m (9,807N-m)	203	43	117	38	5	35	18	85	90	50	7	17	7	M6	15	5×5	5000	3
TRA-2K	2kgf-m (19,61N-m)	203	43	117	38	5	35	18	85	90	50	7	17	7	M6	15	5×5	5000	
TRA-5K	5kgf-m (49,03N-m)	203	43	117	38	5	35	18	85	90	50	7	17	7	M6	15	5×5	5000	
TRA-10K	10kgf-m (98,07N-m)	240	55	130	50	5	45	32	100	90	50	7	17	7	M6	15	10×8	5000	7
TRA-20K	20kgf-m (196,1N-m)	240	55	130	50	5	45	32	100	90	50	7	17	7	M6	15	10×8	4000	
TRA-50K	50kgf-m (490,3N-m)	340	95	150	90	5	85	47	118	100	60	8	20	9	M8	17	12×8	4000	12
TRA-100K	100kgf-m (980,7N-m)	340	95	150	90	5	85	47	118	100	60	8	20	9	M8	17	12×8	4000	
TRA-200K	200kgf-m (1,961kN-m)	360	103	154	100	3	95	63	135	100	60	8	20	9	M8	17	18×11	4000	23
TRA-300K	300kgf-m (2,942kN-m)	360	103	154	100	3	95	63	135	100	60	8	20	9	M8	17	18×11	3000	

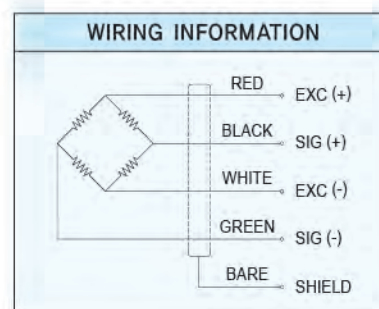
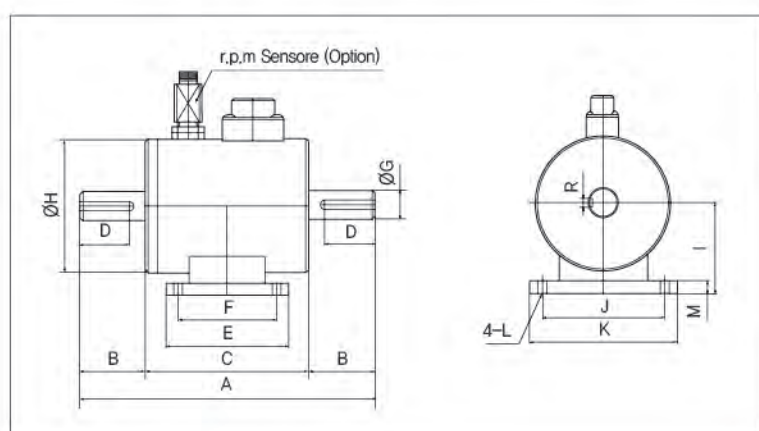
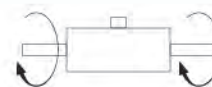
* Specifications are subject to change without notice.

Shaft Type Torque Sensors

> Model TRB

Model TRB load cell measure the torque of continuous rotating object. Platinum coated connector provides long term signal stability and high accuracy. These models are most appropriate for industrial measurement. Applications include the performance testers for automotive components such as clutches, transmissions, motors and pumps.

※ Option : r.p.m. sensor



> SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C)	1~2000kgf-m (9.807N-m~19.61kN-m)
Rated output(R.O)	1.5mV/V $\pm$ 1% (1~5kgf-m: 1mV/V)
Nonlinearity	0.3% of R.O.
Hysteresis	0.2% of R.O.
Repeatability	0.3% of R.O.
Temperature effect on rated output	0.3% of LOAD/10°C
Temperature effect on zero balance	0.2% of R.O./10°C
Terminal resistance	350 Ω $\pm$ 5%
Insulation resistance bridge	200M Ω
Excitation recommended	10V
Safe overload	120% R.C.
Cable length	$\varnothing$ 7mm, 4core, 3m

> DIMENSIONS TABLE

unit:mm

Model	Capacity	A	B	C	D	E	F	$\varnothing$ G	$\varnothing$ H	I	J	K	$\varnothing$ L	M	R	R.P.M	Weight(kg)
TRB-1K	1kgf-m (9.807N-m)	191	43	105	38	68	50	18	72	41	72	86	7	8.5	5×5	5000	3
TRB-2K	2kgf-m (19.61N-m)	191	43	105	38	68	50	18	72	41	72	86	7	8.5	5×5	5000	
TRB-5K	5kgf-m (49.03N-m)	191	43	105	38	68	50	18	72	41	72	86	7	8.5	5×5	5000	
TRB-10K	10kgf-m (98.07N-m)	260	55	150	40	100	84	32	100	63	98	115	7	12	10×8	5000	
TRB-20K	20kgf-m (196.1N-m)	260	55	150	40	100	84	32	100	63	98	115	7	12	10×8	4000	7
TRB-50K	50kgf-m (490.3N-m)	310	80	150	70	120	98	47	118	75	124	148	9	15	12×8	4000	
TRB-100K	100kgf-m (980.7N-m)	310	80	150	70	120	98	47	118	75	124	148	9	15	12×8	4000	
TRB-200K	200kgf-m (1.961kN-m)	375	100	175	85	120	98	63	135	90	150	180	10.5	20	18×11	4000	
TRB-300K	300kgf-m (2.942kN-m)	375	100	175	85	120	98	63	135	90	150	180	10.5	20	18×11	3000	25
TRB-500K	500kgf-m (4.903kN-m)	500	140	220	115	148	118	90	170	114	162	192	11	26	25×14	3000	
TRB-1000K	1000kgf-m (9.807kN-m)	500	140	220	115	148	118	90	170	114	162	192	11	26	25×14	3000	
TRB-2000K	2000kgf-m (19.61kN-m)	680	208	264	160	210	172	115	210	138	190	230	13	26	32×18	3000	

◆ Specifications are subject to change without notice.

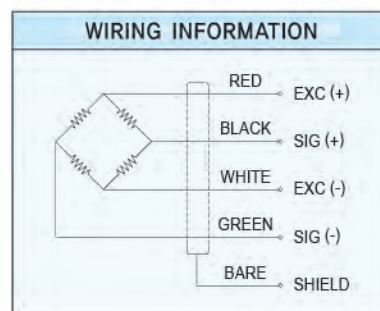
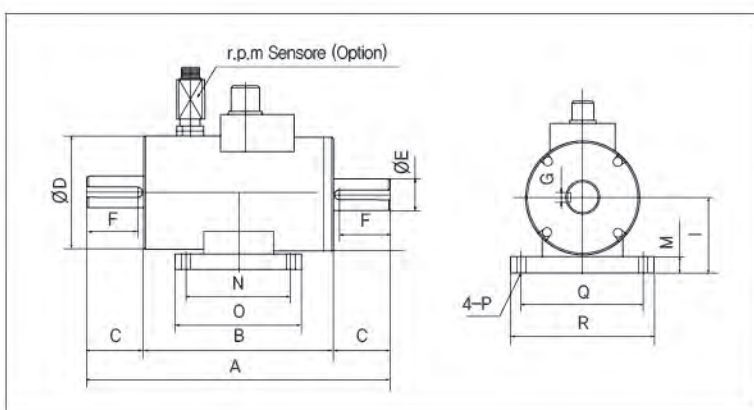
Transformer Method Torque Sensors

> Model TRC

Model TRC brushless type torque transducers are designed for high RPM application. The brushless type allows a maintenance free and a maximum durability.

This model can be used for various tests including aircraft engine test which requires high RPM and high accuracy.

※ Option : r.p.m. sensor



>SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C)	1, 2, 5, 10, 20, 50, 100, 200, 500, 1000, 2000kgf-m (9.807, 19.61, 49.03, 98.07, 196.1, 490.3, 980.7(N-m) 1,961, 4,903, 9,807, 19,61(kN-m))
Rated output(R.O)	1.3mV/V $\pm$ 10%
Nonlinearity	$\pm$ 0.5% of R.O.
Hysteresis	$\pm$ 0.5% of R.O.
Repeatability	$\pm$ 0.5% of R.O.
Temperature effect on rated output	0.3% of LOAD/10°C
Temperature effect on zero balance	0.2% of R.O./10°C
Terminal resistance	350 Ω $\pm$ 1%
Temperature operating	0°C to 60°C
Excitation recommended	2 VAC
Safe overload	120% R.C.
Cable length	$\varnothing$ 10mm, 4core, 3m

>DIMENSIONS TABLE

unit:mm

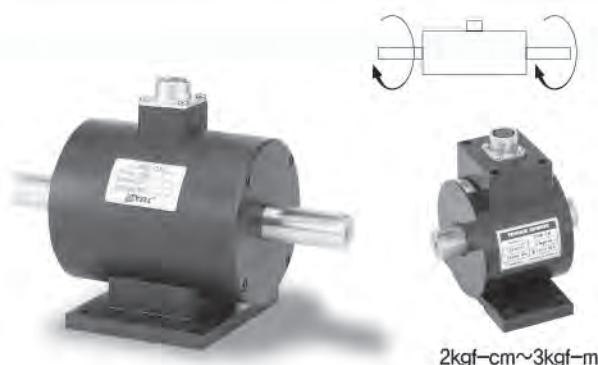
Model	Capacity	A	B	C	$\varnothing$ D	$\varnothing$ E	F	G	I	M	N	O	$\varnothing$ P	Q	R	R.P.M	Weight(kg)
TRC-1K	1kgf-m (9.807N-m)	236	146	45	84	17	40	5×5	55	12	83	101	7	91	109	10,000	3
TRC-2K	2kgf-m (19.61N-m)	236	146	45	84	17	40	5×5	55	12	83	101	7	91	109	10,000	
TRC-5K	5kgf-m (49.03N-m)	236	146	45	84	17	40	5×5	55	12	83	101	7	91	109	10,000	
TRC-10K	10kgf-m (98.07N-m)	240	150	45	90	25	40	8×7	60	12	83	101	7	97	115	10,000	8
TRC-20K	20kgf-m (196.1N-m)	240	150	45	90	25	40	8×7	60	12	83	101	7	97	115	10,000	
TRC-50K	50kgf-m (490.3N-m)	302	162	70	114	45	60	10×8	75	15	97	121	9	123	147	8,000	15
TRC-100K	100kgf-m (980.7N-m)	302	162	70	114	45	60	10×8	75	15	97	121	9	123	147	8,000	
TRC-200K	200kgf-m (1,961kN-m)	336	176	80	148	70	70	18×11	95	20	97	121	9	157	181	5,000	25
TRC-500K	500kgf-m (4,903kN-m)	336	176	80	148	70	70	18×11	95	20	97	121	9	157	181	5,000	
TRC-1000K	1000kgf-m (9,807kN-m)	445	185	130	173	90	110	25×14	110	20	108	134	11	184	210	3,800	55
TRC-2000K	2000kgf-m (19,61kN-m)	513	193	160	203	110	140	28×16	128	23	121	159	13	216	254	3,000	

※ Specifications are subject to change without notice.

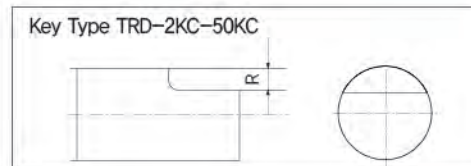
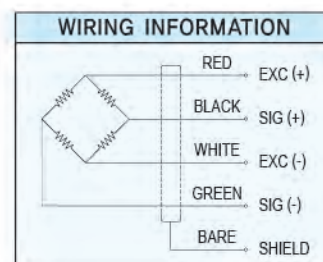
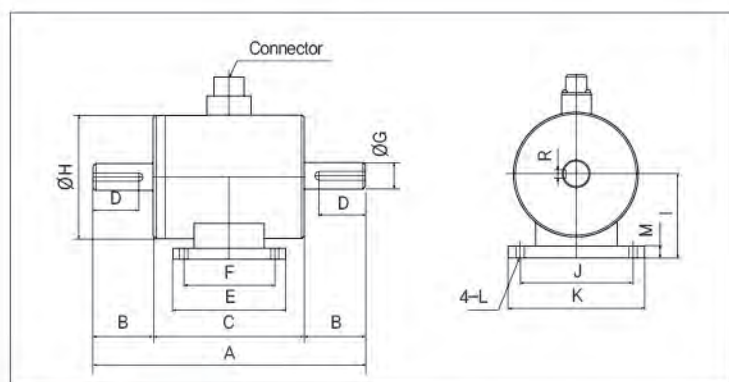
Shaft Type Torque Sensors

> Model TRD

Model TRD loadcell measure the torque of continuous rotating object. Platinum coated connector provides long term signal stability and high accuracy. These models are most appropriate for industrial measurement. Applications include the performance testers for automotive components such as clutches, transmissions, motors and pumps.



2kgf-cm~3kgf-m



> SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C)	2~50kgf-cm, 1~2000kgf-m 0.196, 0.490, 0.981, 1.961, 2.942, 4.903, 9.807, 19.61, 29.42, 49.03, 98.07, 196.1, 490.3, 980.7(N-m) 1.961, 4.903, 9.807, 19.61(kN-m)
Rated output(R.O)	1.5mV/V $\pm$ 1%(2kgf-cm~5kgf-m: 1mV/V)
Nonlinearity	0.3% of R.O.
Hysteresis	0.3% of R.O.
Repeatability	0.2% of R.O.
Temperature effect on rated output	0.3% of LOAD/10°C
Temperature effect on zero balance	0.2% of R.O./10°C
Terminal resistance	350 Ω $\pm$ 5%
Insulation resistance bridge	200M Ω
Excitation recommended	10V
Safe overload	120% R.C.
Cable length	$\varnothing$ 7mm, 4core, 3m

> DIMENSIONS TABLE

unit:mm

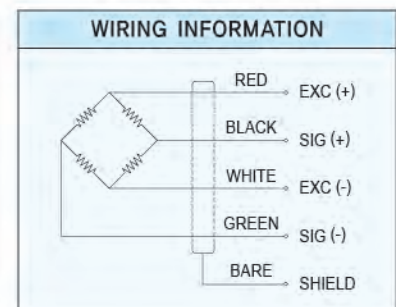
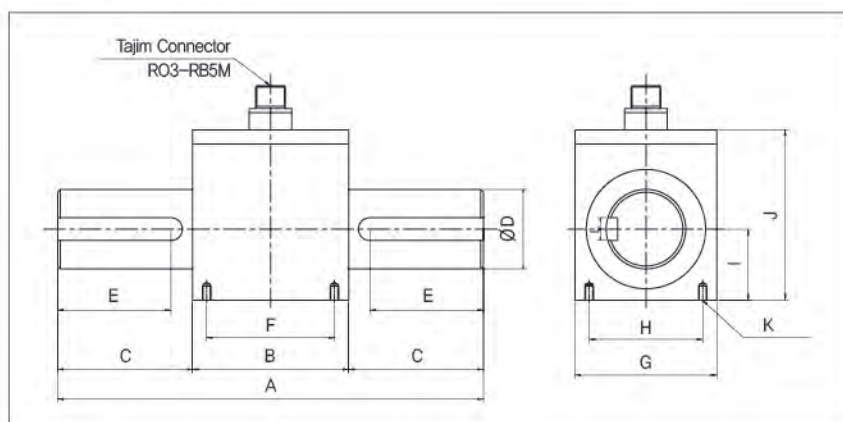
Model	Capacity	A	B	C	D	E	F	G	H	I	J	K	L	M	R	R.P.M
TRD-2KC	2kgf-cm (0.1961N-m)	84	16	52	12	42	32	8	60	34	65	76	5.5	8	1	2500
TRD-5KC	5kgf-cm (0.490N-m)	84	16	52	12	42	32	8	60	34	65	76	5.5	8	1	2500
TRD-10KC	10kgf-cm (0.981N-m)	84	16	52	12	42	32	8	60	34	65	76	5.5	8	1	2500
TRD-20KC	20kgf-cm (1.961N-m)	84	16	52	12	42	32	8	60	34	65	76	5.5	8	1	2500
TRD-30KC	30kgf-cm (2.942N-m)	84	16	52	12	42	32	12	60	34	65	76	5.5	8	1.5	2500
TRD-50KC	50kgf-cm (4.903N-m)	84	16	52	12	42	32	12	60	34	65	76	5.5	8	1.5	2500
TRD-1K	1kgf-m (9.807N-m)	90	16	58	12	46	32	18	72	41	80	94	6.5	8.5	5 $\times$ 5	3000
TRD-2K	2kgf-m (19.61N-m)	90	16	58	12	46	32	18	72	41	80	94	6.5	8.5	5 $\times$ 5	3000
TRD-3K	3kgf-m (29.42N-m)	90	16	58	12	46	32	18	72	41	80	94	6.5	8.5	5 $\times$ 5	3000
TRD-5K	5kgf-m (49.03N-m)	180	42.5	95	35	64	50	18	80	46	80	100	7	12	5 $\times$ 5	5000
TRD-10K	10kgf-m (98.07N-m)	180	42.5	95	35	64	50	18	80	46	80	100	7	12	5 $\times$ 5	5000
TRD-20K	20kgf-m (196.1N-m)	220	55	110	45	100	84	32	100	63	98	115	7	12	10 $\times$ 8	4000
TRD-30K	30kgf-m (294.2N-m)	220	55	110	45	100	84	32	100	63	98	115	7	12	10 $\times$ 8	4000
TRD-50K	50kgf-m (490.3N-m)	220	55	110	45	100	84	32	100	63	98	115	7	12	10 $\times$ 8	4000
TRD-100K	100kgf-m (980.7N-m)	280	80	120	69	120	98	47	100	66	124	148	8.5	15	12 $\times$ 8	4000
TRD-200K	200kgf-m (1.961kN-m)	280	80	120	69	120	98	47	100	66	124	148	8.5	15	12 $\times$ 8	4000
TRD-500K	500kgf-m (4.903kN-m)	390	130	130	100	126	100	90	172	101	154	180	11	20	25 $\times$ 14	2000
TRD-1000K	1000kgf-m (9.807kN-m)	390	130	130	100	126	100	90	172	101	154	180	11	20	25 $\times$ 14	2000
TRD-2000K	2000kgf-m (19.61kN-m)	440	150	140	120	148	110	115	210	130	190	228	13	23	32 $\times$ 18	2000

Specifications are subject to change without notice.

Shaft Type Torque Sensors

> Model TRD8

Small brush type torque sensor.
High precision with using strain gauge method.
Test equipment such as motors, engine clutches, etc.



> SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C)	1, 2, 5, 10, 20, 30, 50, 75, 100, 250kgf-m
Rated output(R.O)	2mV/V $\pm$ 1%
Nonlinearity	0.3% of R.O.
Hysteresis	0.3% of R.O.
Repeatability	0.2% of R.O.
Temperature effect on rated output	0.3% of LOAD/10°C
Temperature effect on zero balance	0.2% of R.O./10°C
Terminal resistance	350 Ω $\pm$ 5%
Insulation resistance bridge	200M Ω
Excitation recommended	10V
Safe overload	120% R.C.
Cable length	$\varnothing$ 7mm, 4core, 3m

> DIMENSIONS TABLE

unit:mm

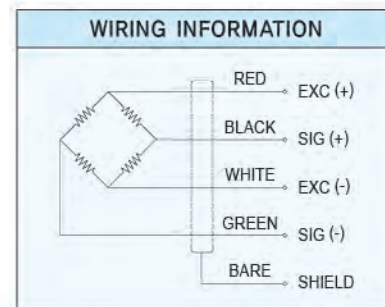
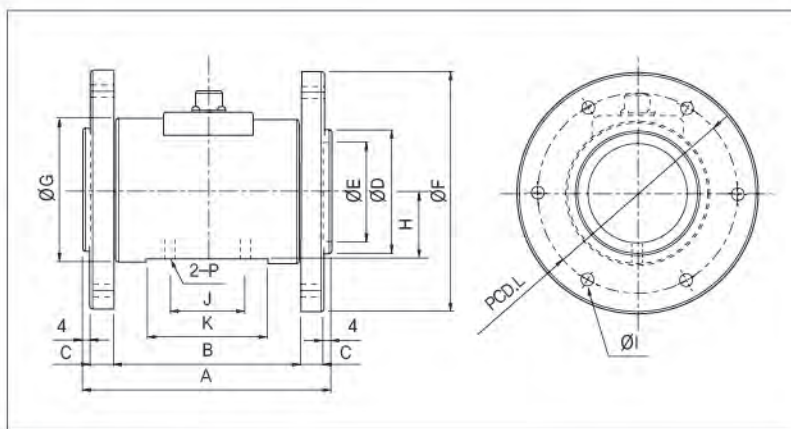
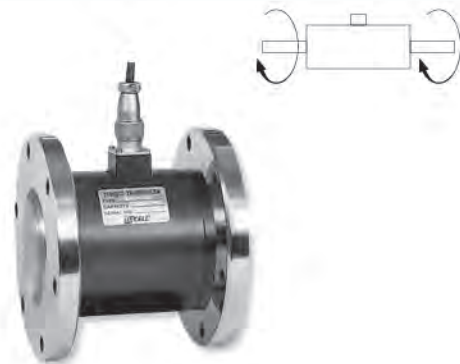
Model	Capacity	A	B	C	$\varnothing$ D	E	F	G	H	I	J	K	L
TRD8-1K	1kgf-m (9.807N-m)	90	50	20	14	15	42	40	32	20	50	4×M3	5×5
TRD8-2K	2kgf-m (19.61N-m)	90	50	20	14	15	42	40	32	20	50	4×M3	5×5
TRD8-5K	5kgf-m (49.03N-m)	110	50	30	19	25	42	40	32	20	50	4×M3	6×6
TRD8-10K	10kgf-m (98.07N-m)	110	50	30	19	25	42	40	32	20	50	4×M3	6×6
TRD8-20K	20kgf-m (196.1N-m)	150	55	47.5	28	40	45	50	40	25	60	4×M3	8×7
TRD8-30K	30kgf-m (294.2N-m)	150	55	47.5	28	40	45	50	40	25	60	4×M3	8×7
TRD8-50K	50kgf-m (490.3N-m)	180	60	60	39	50	50	60	50	30	70	4×M4	12×8
TRD8-75K	75kgf-m (735.5N-m)	180	60	60	39	50	50	60	50	30	70	4×M4	12×8
TRD8-100K	100kgf-m (980.7N-m)	260	75	92.5	54	80	65	80	70	40	90	4×M4	16×10
TRD8-250K	250kgf-m (2,452N-m)	260	75	92.5	54	80	65	80	70	40	90	4×M4	16×10

* Specifications are subject to change without notice.

Flange Type Rotary Torque Sensors

> Model TRE

Model TRE slipring rotating torque transducers have flange drives at both ends. This model is designed for the application with minimal space and high capacity requirement.



> SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C)	20kgf~500kgf-m (196.1N-m~4.903kN-m)
Rated output(R.O)	1.5mV/V $\pm 1\%$
Nonlinearity	0.3% of R.O.
Hysteresis	0.3% of R.O.
Repeatability	0.3% of R.O.
Temperature effect on rated output	0.3% of LOAD/10°C
Temperature effect on zero balance	0.2% of R.O./10°C
Temperature range, compensated	-10°C to 60°C
Temperature range, safe	-20°C to 70°C
Terminal resistance, input	350Ω $\pm 5\Omega$
Terminal resistance, output	350Ω $\pm 3\Omega$
Insulation resistance bridge/case	200MΩ
Excitation recommended	10V
Safe overload	150% R.C.
Cable length	Ø7mm 4core, 3m

> DIMENSIONS TABLE

unit:mm

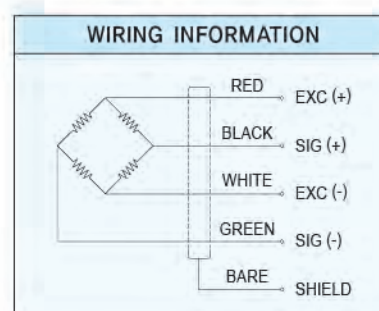
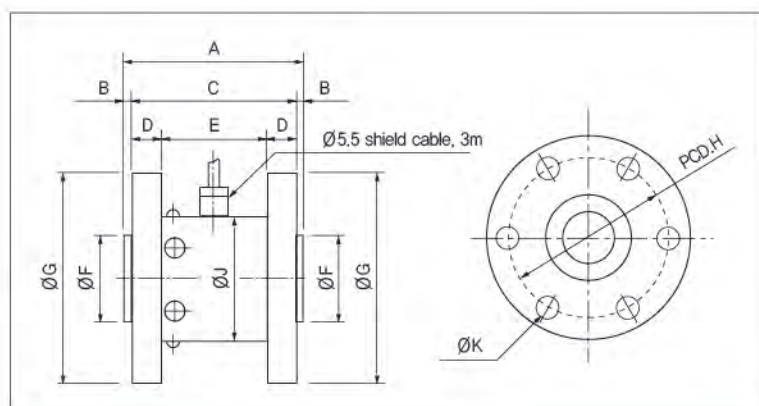
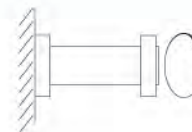
Model	Capacity	A	B	C	ØD	ØE	ØF	ØG	H	I	J	K	L	P	R.P.M
TRE-20K	20kgf-m (196.1N-m)	130	98	12	65	52	127	81	38	6-Ø6.5	50	64	105	M6 DP.8	5,000
TRE-50K	50kgf-m (490.3N-m)	134	102	12	76	62	136	88	41.5	6-Ø8.5	40	64	114	M6 DP.8	4,000
TRE-100K	100kgf-m (980.7N-m)	134	102	12	86	68	156	100	48	8-Ø10.5	48	64	130	M8 DP.8	4,000
TRE-200K	200kg-m (196.1KN-m)	148	108	16	102	75	172	116	56	8-Ø10.5	50	68	146	M8 DP.8	3,000
TRE-300K	300kgf-m (2,942KN-m)	148	108	16	102	75	172	116	56	8-Ø10.5	50	68	146	M8 DP.8	3,000
TRE-500K	500kgf-m (4.903KN-m)	142	102	16	107	81	184	128	62	8-Ø10.5	56	74	158	M8 DP.8	3,000

◆ Specifications are subject to change without notice.

Non-Rotary Torque Sensors

> Model TCN

A static torque sensor for measurement of torque of stationary objects or within a certain angle rotation. Suitable for torque measurement of various automobile parts, pneumatic and electric screwdriver etc.



> SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C)	2~50kgf-cm (0.196N-m~4.903N-m), 1~2000kgf-m (9.807N-m~19.61kN-m)
Rated output(R.O)	1mV/V ±1%
Nonlinearity	0.3% (0.1kgf-m under 0.5% R.O.)
Hysteresis	0.3% (0.1kgf-m under 0.5% R.O.)
Repeatability	0.02% of R.O.
Temperature effect on rated output	±0.1% of LOAD/10°C
Temperature effect on zero balance	±0.1% of R.O./10°C
Terminal resistance, input	350Ω ±1%
Terminal resistance, output	350Ω ±3Ω
Insulation resistance bridge	2000MΩ
Excitation recommended	10V
Safe overload	120% R.C.
Cable length	Ø5.5mm 4core, 3m

> DIMENSIONS TABLE

unit:mm

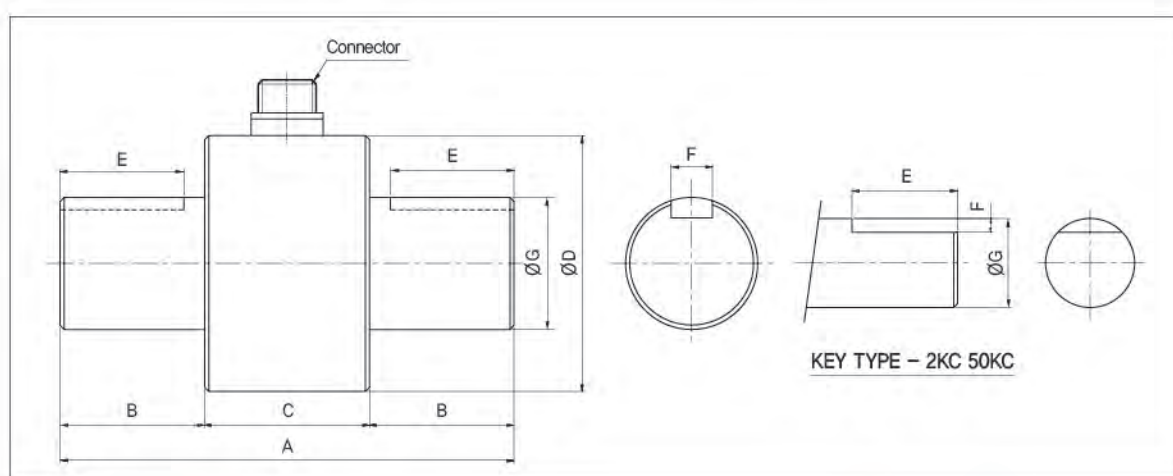
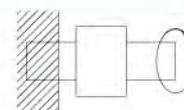
Model	Capacity	A	B	C	D	E	ØF	ØG	H	J	ØK
TCN-2KC	2kgf-cm (0.1961N-m)	61	3	55	5	45	20	58	46	33	2×4-Ø4.5
TCN-3KC	3kgf-cm (0.294N-m)	61	3	55	5	45	20	58	46	33	2×4-Ø4.5
TCN-5KC	5kgf-cm (0.490N-m)	61	3	55	5	45	20	58	46	33	2×4-Ø4.5
TCN-10KC	10kgf-cm (0.981N-m)	61	3	55	10	35	40	80	66	48	2×4-Ø6.5
TCN-20KC	20kgf-cm (1.961N-m)	61	3	55	10	35	40	80	66	48	2×4-Ø6.5
TCN-30KC	30kgf-cm (2.942N-m)	61	3	55	10	35	40	80	66	48	2×4-Ø6.5
TCN-50KC	50kgf-cm (4.903N-m)	61	3	55	10	35	40	80	66	48	2×4-Ø6.5
TCN-1K	1kgf-m (9.807N-m)	61	3	55	10	35	40	80	66	48	2×4-Ø6.5
TCN-2K	2kgf-m (19.61N-m)	61	3	55	10	35	40	80	66	48	2×4-Ø6.5
TCN-3K	3kgf-m (29.42N-m)	61	3	55	10	35	40	80	66	48	2×4-Ø6.5
TCN-5K	5kgf-m (49.03N-m)	61	3	55	10	35	40	80	66	48	2×4-Ø6.5
TCN-10K	10kgf-m (98.07N-m)	61	3	55	10	35	40	80	66	48	2×4-Ø6.5
TCN-20K	20kgf-m (196.1N-m)	86	3	80	15	50	40	98	78	58	2×6-Ø10.5
TCN-50K	50kgf-m (490.3N-m)	130	3	124	20	84	60	118	95	68	2×6-Ø10.5
TCN-100K	100kgf-m (980.7N-m)	136	3	130	20	90	60	146	115	75	2×6-Ø13
TCN-200K	200kgf-m (1.961kN-m)	146	3	140	25	90	60	166	130	99	2×8-Ø17
TCN-500K	500kgf-m (4.903kN-m)	176	3	170	35	100	60	197	155	98	2×12-Ø17
TCN-1000K	1000kgf-m (9.807kN-m)	180	3	174	37	100	90	248	180	110	2×12-Ø21
TCN-2000K	2000kgf-m (19.61kN-m)	180	3	174	37	100	90	248	180	128	2×12-Ø21

Specifications are subject to change without notice.

Non-Rotary Torque Sensors

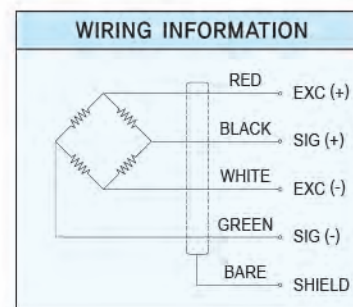
> Model TCN15

A static torque sensor for measurement of torque of stationary objects or within a certain angle rotation. Suitable for torque measurement of various automobile parts, pneumatic and electric screwdriver etc.



> SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C)	2~50kgf-cm(0.196N-m~4.903N-m), 1~100kgf-m(9.807N-m~980N-m)
Rated output(R.O)	1mV/V $\pm 1\%$
Nonlinearity	0.3% of R.O.
Hysteresis	0.2% of R.O.
Repeatability	0.1% of R.O.
Temperature effect on rated output	0.1% of LOAD/10°C
Temperature effect on zero balance	0.1% of R.O./10°C
Excitation recommended	10V
Safe overload	120% R.C.



> DIMENSIONS TABLE

unit:mm

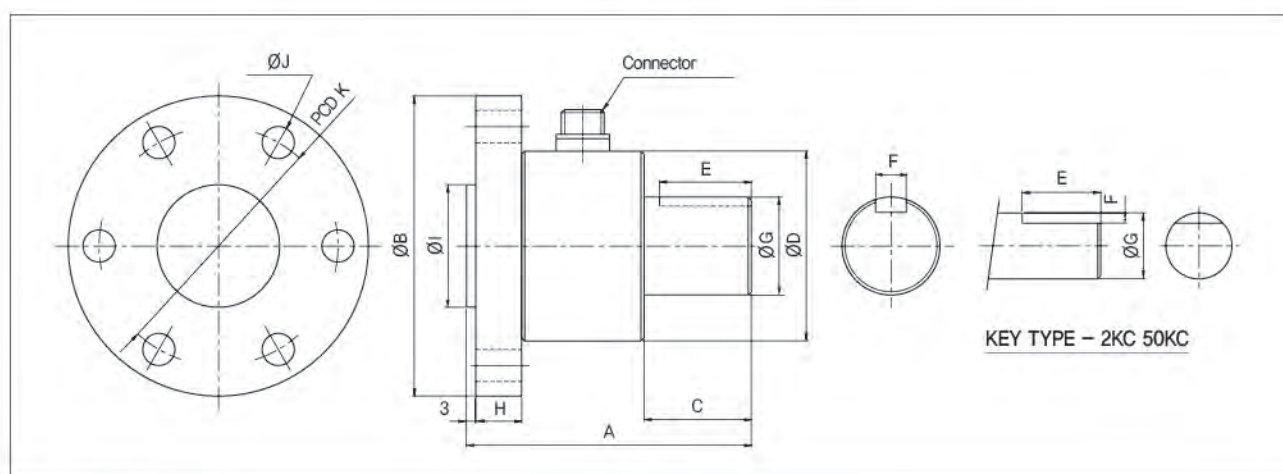
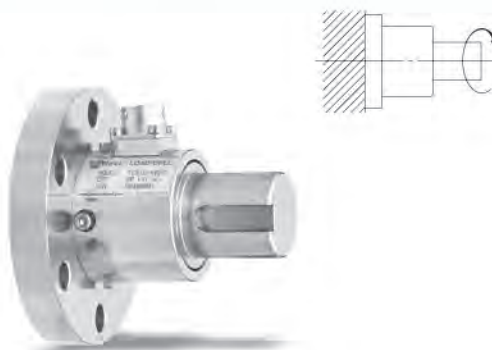
Capacity	A	B	C	ØD	E	F	G
2kgf-cm (0.1961N-m)	75	20	35	34	15	1	8
5kgf-cm (0.490N-m)	75	20	35	34	15	1	8
10kgf-cm (0.981N-m)	75	20	35	34	15	1	8
20kgf-cm (1.961N-m)	75	20	35	34	15	1	8
30kgf-cm (2.942N-m)	75	20	35	34	15	1	12
50kgf-cm (4.903N-m)	75	20	35	34	15	1	12
1kgf-m (9.807N-m)	82	21	40	40	16	5×5	18
2kgf-m (19.61N-m)	82	21	40	40	16	5×5	18
3kgf-m (29.42N-m)	82	21	40	43	16	5×5	18
5kgf-m (49.03N-m)	82	21	40	43	16	5×5	18
10kgf-m (98.07N-m)	110	35	40	62	30	10×8	32
20kgf-m (196.1N-m)	110	35	40	62	30	10×8	32
50kgf-m (490.3N-m)	155	55	45	84	50	12×8	47
100kgf-m (980.7N-m)	155	55	45	84	50	12×8	47

* Specifications are subject to change without notice.

Non-Rotary Torque Sensors

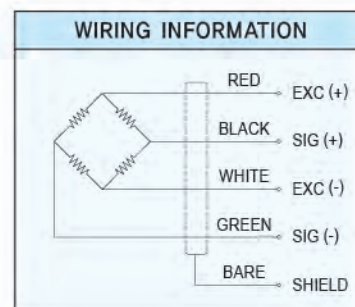
> Model TCN16

A static torque sensor for measurement of torque of stationary objects or within a certain angle rotation. Suitable for torque measurement of various automobile parts, pneumatic and electric screwdriver etc.



> SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C)	2~50kgf-cm(0.196N-m~4.903N-m), 1~100kgf-m(9.807N-m~980N-m)
Rated output(R.O)	1mV/V $\pm 1\%$
Nonlinearity	0.3% of R.O.
Hysteresis	0.2% of R.O.
Repeatability	0.1% of R.O.
Temperature effect on rated output	0.1% of LOAD/10°C
Temperature effect on zero balance	0.1% of R.O./10°C
Excitation recommended	10V
Safe overload	120% R.C.



> DIMENSIONS TABLE

unit:mm

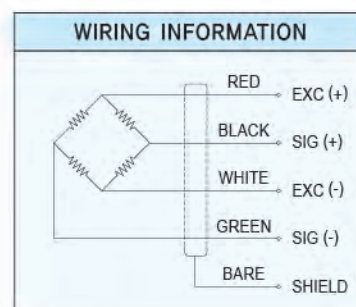
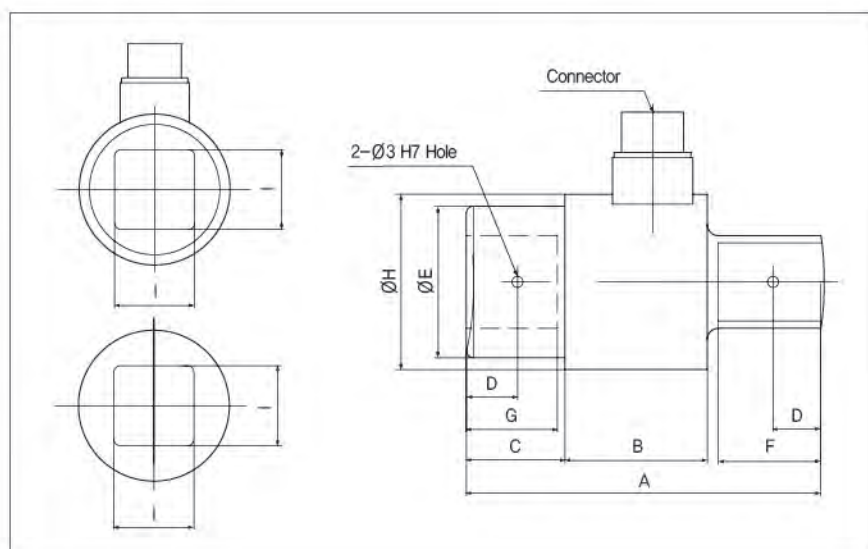
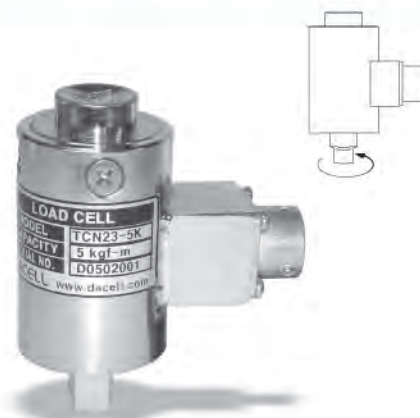
Capacity	A	B	C	D	E	F	G	H	I	J	K
2kgf-cm (0.1961N-m)	63	58	20	34	15	1	8	5	20	4-Ø4.5	46
5kgf-cm (0.490N-m)	63	58	20	34	15	1	8	5	20	4-Ø4.5	46
10kgf-cm (0.981N-m)	63	58	20	34	15	1	8	5	20	4-Ø4.5	46
20kgf-cm (1.961N-m)	63	58	20	34	15	1	8	5	20	4-Ø4.5	46
30kgf-cm (2.942N-m)	68	80	20	34	15	1	12	10	40	4-Ø6.5	66
50kgf-cm (4.903N-m)	68	80	20	34	15	1	12	10	40	4-Ø6.5	66
1kgf-m (9.807N-m)	74	80	21	43	16	5×5	18	10	40	4-Ø6.5	66
2kgf-m (19.61N-m)	74	80	21	43	16	5×5	18	10	40	4-Ø6.5	66
3kgf-m (29.42N-m)	74	80	21	43	16	5×5	18	10	40	4-Ø6.5	66
5kgf-m (49.03N-m)	74	80	21	43	16	5×5	18	10	40	4-Ø6.5	66
10kgf-m (98.07N-m)	93	98	35	50	30	10×8	32	15	40	6-Ø10.5	78
20kgf-m (196.1N-m)	93	98	35	50	30	10×8	32	15	40	6-Ø10.5	78
50kgf-m (490.3N-m)	123	146	55	84	50	12×8	47	20	60	6-Ø13	115
100kgf-m (980.7N-m)	123	146	55	84	50	12×8	47	20	60	6-Ø13	115

Specifications are subject to change without notice.

Socket Wrench Rotary Torque Sensors

> Model TCN23

- Adaptable for portable usage
- No special adapter tools required
- Precision repeatable torque measurements
- Calibration reference for 'hard usage' mechanical torque wrenches



> SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C)	2~1000kgf-cm
Rated output(R.O)	1mV/V±1%
Nonlinearity	0.3% of R.O.
Hysteresis	0.3% of R.O.
Repeatability	0.2% of R.O.
Temperature range, compensated	-10℃ to 60℃
Temperature range, safe	-10℃ to 80℃
Terminal resistance, input	350Ω ±30Ω
Terminal resistance, output	350Ω ±2Ω
Insulation resistance bridge	2000MΩ
Excitation recommended	10V
Safe overload	120% R.C.
Cable length	Ø5mm 4core, 5m

> DIMENSIONS TABLE

unit:mm

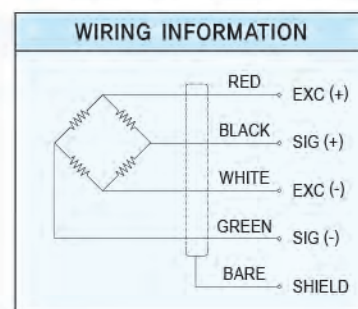
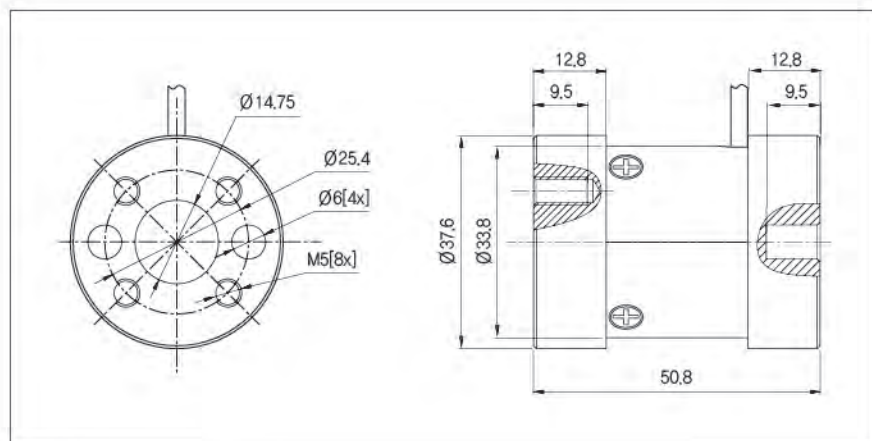
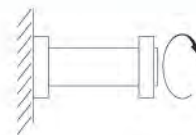
Capacity	A	B	C	D	ØE	F	G	ØH	I
2 kgf-cm	58	33	12	4	14	11	11	28	1/4"
5, 10 kgf-cm	60	33	13	5.5	16.5	12.5	12	28	3/8"
20, 50 kgf-cm	60	33	13	5.5	16.5	12.5	13	28	3/8"
100, 200 kgf-cm	71	37	16	7	22	16	17	28	1/2"
500, 1000 kgf-cm	98	39	27	14	41.5	29	27	48	1"

* Specifications are subject to change without notice.

Socket Wrench Rotary Torque Sensors

> Model TCN129

- Static torque sensor
- Made of aluminum alloy
- Compact structure, easy to install
- Used for static, non-continuous rotational torque force measurements



> SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C)	10, 20, 30, 50, 100 (N-m)
Rated output(R.O)	2.0mV/V±10%
Nonlinearity	0.5% of R.O.
Hysteresis	0.25% of R.O.
Repeatability	0.1% of R.O.
Creep(30min)	0.5% of R.O.
Zero balance	±2% of R.O.
Temperature effect on rated output	0.1% of LOAD/10°C
Temperature effect on zero balance	0.1% of R.O./10°C
Temperature range, compensated	-10°C to 60°C
Temperature range, safe	-20°C to 80°C
Terminal resistance, input	350±30Ω
Terminal resistance, output	350±5Ω
Insulation resistance bridge	2000MΩ
Excitation recommended	10V
Excitation maximum	15V
Safe overload	120% R.C.
Ultimate overload	200% R.O.
Cable length	Ø3mm 4core, 3m

◆ Specifications are subject to change without notice.



> Model DN30W

RPM processor/tachometer (frequency input).
The setup sequence is simple and quick using four push buttons only.

- Relay output(Hi, Low)
- 4 Relay output
- Peak & sample hold
- Analog out (DAC)
- Modbus RTU protocol
- Calibration by Pulse/circle input

■ Option

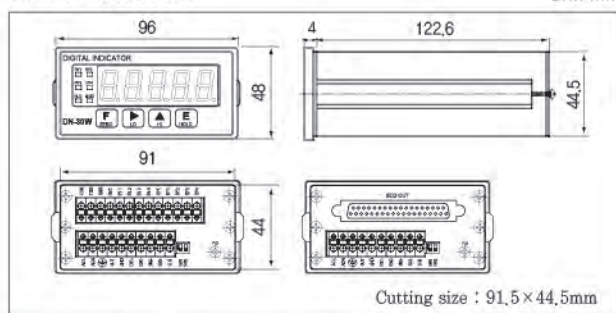
- OP-01 : Paralle BCD output
- OP-03 : RS485 Multi drop interface
- OP-10 : Power 24VDC

> SPECIFICATIONS

Specifications	Accuracy
Application sensor	Proximity sensor (MP981, RS-025)
Sensor authorized voltage	DC 12V
Measuring range	Input frequency 5kHz max, 1 ~ 350 pulse/circle
Measuring accuracy	0.05%
Display	0 ~ 99999
Minimum Display Unit	1 RPM
Character height	7 segment LED 5 Digit (14mm)
Analog output	DC 0 ~ 10V or 4 ~ 20mA (Selective use)
Relay output	Contact capacity : 250VAC/3VDC 3A Relay life time : Over 10 ⁷ , Over 10 ⁵ under the rated load
Usage temperature range	-10°C to 60°C
Humidity	Less than 80% RH (no dewing.)
Power source used	AC 90 ~ 240V 50/60Hz 8VA
Sizes	96×48×128mm
Panel cutting size	91.5×44.5mm
Weight	About 500 g

> DIMENSIONS

unit:mm



• Specifications are subject to change without notice.



> Model RS-025

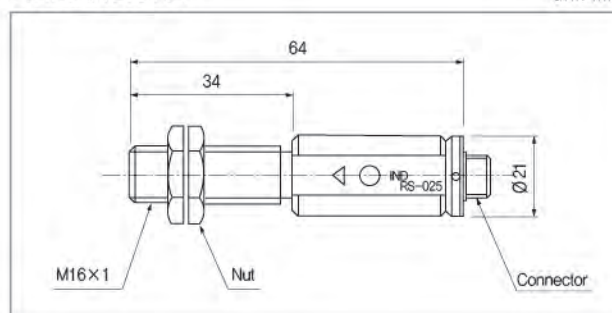
The RS-025 is a magneto-type detector using a hall element which is suitable for rpm measurement from ultra low speed to high speeds.

> SPECIFICATIONS

Specifications	Accuracy
Detection method	Hall element
Measurement range	1Hz~20kHz(using a 60P/R gear, 1~20,000r/min, with an output waveform duty cycle 50%±20%)
Detection gear	Strong magnetic materials
Gap between detector and gear	modulus 0.5~3, tooth width 3 mm or greater
Power supply used	DC 12V±2V(0.5Vp-p or less ripple)
Current consumption	40mA or less(12V, at 25°C)
Output waveform	Low level; +0.5V or less Hig level; 5V±0.5V rectangular waveform(With no load)
Output impedance	Approx. 330Ω
Output type	Floating grounding
Protective circuit	Power supply polarity and output short protection
Operating temperature range	-10°C~+70°C
Storage temperature range	-20°C~+80°C
Matching connector	6-pin connector(type R04-PB6F plug)
Allowable vibration (during-operation)	Double-ended 1.2mm at 30Hz in X, Y and Z direction for one hour each.
Allowable shock(non-operating)	490m/s ² in X and Y direction each 3 times.
Withstand voltage	1.DC250V, 1min.(between shield and signal cable) 2.DC250V, 1min.(between shield and sensor head)
Interface indicator	DN-30W
Weight	Approx. 80g(including two mounting nuts)
Accessories	Mounting nuts(2)

> DIMENSIONS

unit:mm



> Model DN-10W

The product have designed specifically to operate with strain gauge sensors such as Fast-measurement of Load cell, Pressure Transducer, etc.
The setup sequence is simple and quick using four push buttons only.



> SPECIFICATIONS

Specifications	Accuracy
Application sensor	Strain Gauge sensor
Sensor authorized voltage (the number of Loadcell connection)	DC 5V (Load cell(350Ω) available 4)
Zero adjustment range	100% F.S (Auto Zero)
Input signal	0.5 ~ 3mV/V
Display	-19999 ~ +99999
Character height	7 segment LED 5 Digit (14mm)
AD converter	24bit 200 times/sec
DA converter	16 bit
Temperature Characteristic	±10ppm/°C
Analog output	DC 0 ~ ±10V or 4~20mA(Selective use)
Relay output	Contact capacity : 250VAC/3VDC 3A Relay life time : Over 10 ⁷ , Over 10 ⁵ under the rated load)
Usage temperature range	-10°C ~ 60°C
Humidity	Less than 80% RH (no dewing.)
Power source used	AC 90 ~ 240V 50/60Hz 8VA
Sizes	96×48×128mm
Panel cutting size	91.5×44.5mm
Weight	About 500g

■ Feature

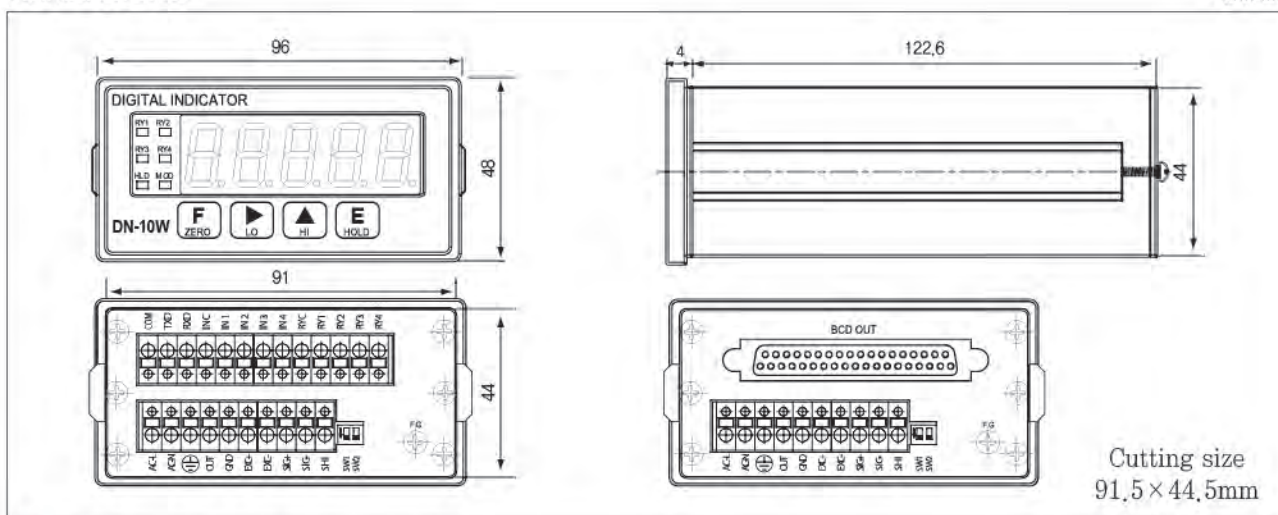
- High resolving power (24bit A/D)
- High precision (more than 0.01% F.S) and stability
- Quick sampling speed (200times/sec)
- Watch dog
- Calibration of actual load and sensor output value
- Peak hold and Sample hold
- Analog output (DAC)
- 4 Relay output
- Modbus RTU Protocol

■ Option

- OP-01 : BCD paralle output
- OP-02 : RS-232C(Standard Installation)
- OP-03 : RS 485
- OP-10 : Power 24 VDC
- OP-14 : Input signal 5mV/V(DLH-A)

> DIMENSIONS

unit:mm



Specifications are subject to change without notice.

High Speed Digital Indicator

> Model DN-50W

The DN-50W have designed specifically to operate with strain gauge sensors such as Fast – measurement of Load cell, Pressure Transducer, etc.
The setup sequence is simple and quick using four push buttons only. And comparison output are available.

- Sampling speed : Appr. 1000Times Per Second
- Standard Analog output : $0 \sim \pm 10V$, $4 \sim 20mA$, $0 \sim 20mA$



> SPECIFICATIONS

Specifications	Accuracy
Application sensor	Strain Gauge sensor
Sensor authorized voltage (the number of Loadcell connection)	DC 5V (Load cell(350Ω) available 4)
Zero adjustment range	100% F.S (Auto Zero)
Input signal	$0.5 \sim 3mV/V$
Display	$-19999 \sim +99999$
Character height	7 segment LED 5 Digit (14mm)
AD converter	24bit 1000 times /sec
DA converter	16 bit, 1KHz
Temperature Characteristic	$\pm 10ppm/^{\circ}C$
Analog output	DC $0 \sim \pm 10V$ or $4 \sim 20mA$ (Selective use)
Relay output	Contact capacity : 250VAC/3VDC 3A Relay life time : Over 10^7 , Over 10^5 under the rated load)
Usage temperature range	$-10^{\circ}C \sim 60^{\circ}C$
Humidity	Less than 80% RH (no dewing.)
Power source used	AC $90 \sim 240V$ 50/60Hz 8VA
Sizes	$96 \times 48 \times 128mm$
Panel cutting size	$91.5 \times 44.5mm$
Weight	About 500g

■ Feature

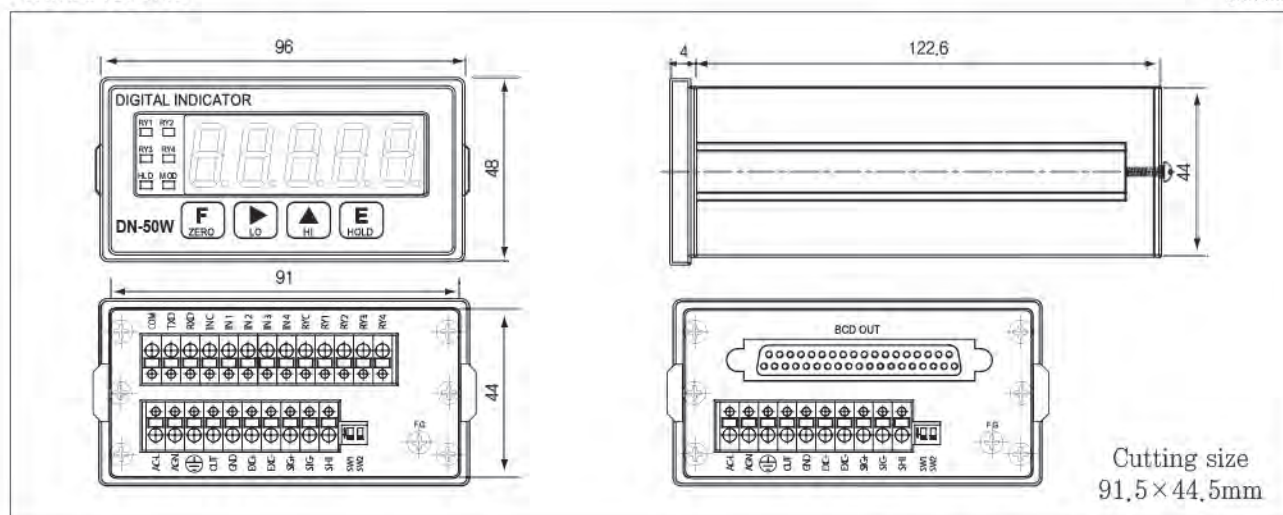
- High resolution (24bit ADC, 16bit DAC)
- High precision (more than 0.01% F.S) and stability
- Quick sampling speed (1000times/sec)
- Relay output : Hi, Low, NG, OK,
- Unit conversion : kg, N, lb, kg/cm^2 , bar, MPa
- Display part and analogue zero by auto zero (DAC)
- Modbus RTU Protocol
- Peak & sample hold
- Watch dog

■ Option

- OP-01 : BCD paralle out
- OP-02 : RS232C serial interface (Standard installed)
- OP-03 : RS485 Multi drop interface
- OP-10 : Power 24VDC
- OP-14 : Input signal $5mV/V$
- OP-15 : Input signal $10mV/V$

> DIMENSIONS

unit:mm



Specifications are subject to change without notice.

AC Digital Indicator

> Model DN-27W

DN-27W, an indicator displaying micro-voltage signal in digital amplified from differential trans sensors, is used for fast-measurement of brushless type torquemeter (Model TRC).

- Sampling speed : Appr. 200 Times Per Second
- Standard Analog output : $0 \sim \pm 10V$, $4 \sim 20mA$, $0 \sim 20mA$



> SPECIFICATIONS

Specifications	Accuracy
Application sensor	Transformer method torque transducer (TRC)
Sensor authorized voltage	2Vrms / 5 kHz ± 0.1 kHz
Zero adjustment range	100% F.S (Auto Zero)
Input signal	$0 \sim 2mV/V$
Display	$-19999 \sim +99999$
Character height	7 segment LED 5 Digit (14mm)
AD converter	24bit 200 times/sec
DA converter	16 bit 200 times/sec
Temperature Characteristic	$\pm 10ppm/^{\circ}C$
Analog output	DC $0 \sim \pm 10V$ or $4 \sim 20mA$ (Selective use)
Relay output	Contact capacity : 250VAC/3VDC 3A Relay life time : Over 10^7 , Over 10^5 under the rated load)
Usage temperature range	$-10^{\circ}C \sim 60^{\circ}C$
Humidity	Less than 80% RH (no dewing.)
Power source used	AC $90 \sim 240V$ 50/60Hz 8VA
Sizes	$96 \times 48 \times 128mm$
Panel cutting size	$91.5 \times 44.5mm$
Weight	About 500g

■ Feature

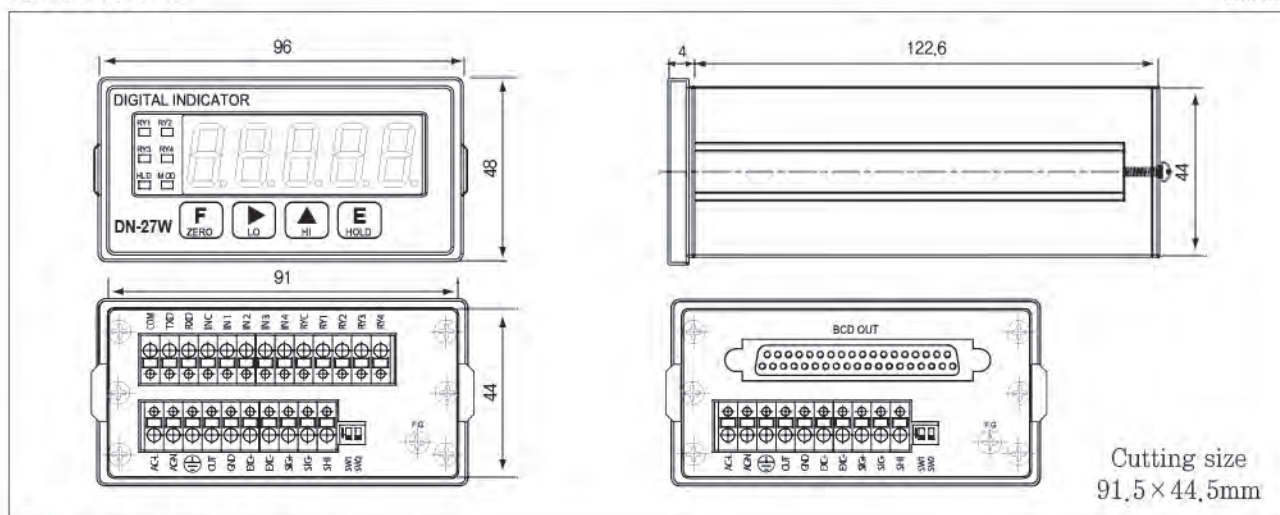
- High resolution (24bit ADC, 16bit DAC)
- High precision (more than 0.01% F.S) and stability
- Sampling speed (200 times/sec)
- Unit conversion : kg, N, lb, kg/cm^2 , bar, MPa
- Display part and analogue zero by auto zero (DAC)
- Watch dog
- Calibration of actual load and sensor output value
- Peak hold and Sample hold
- Relay output : Hi, Low, NG, OK.
- Modbus RTU Protocol, RS232C serial interface (Standard installed)

■ Option

- OP-01 : BCD parallel out
- OP-03 : RS485 Multi drop interface
- OP-10 : DC 24V 0.3A

> DIMENSIONS

unit:mm



Specifications are subject to change without notice.

High Speed Digital Indicator

> Model DN100

The DN-100 have designed specifically to operate with strain gauge sensors such as DN-100 is used in places where high-speed measurements are needed (compression load management, impact testing, etc.). It has high-speed responsiveness and high precision. The upper and lower limit settings are displayed.

- Superfast Conversion A/D (7,000 sps)
- High resolution (24 bit ADC, 16 bit DAC)
- High precision (0.01% F.S. or higher) and stability
- Calibration of actual load and sensor output value
- Watch dog
- Unit conversion function (kg, N, ℓ b, kg/cm^2 , bar, MPa)
- Auto zero capability (Digital Display and Analog Output Simultaneous Zero)
- Peak & sample hold, Average hold
- 4 Relay Contact Output
- Modbus RTU protocol



> SPECIFICATIONS

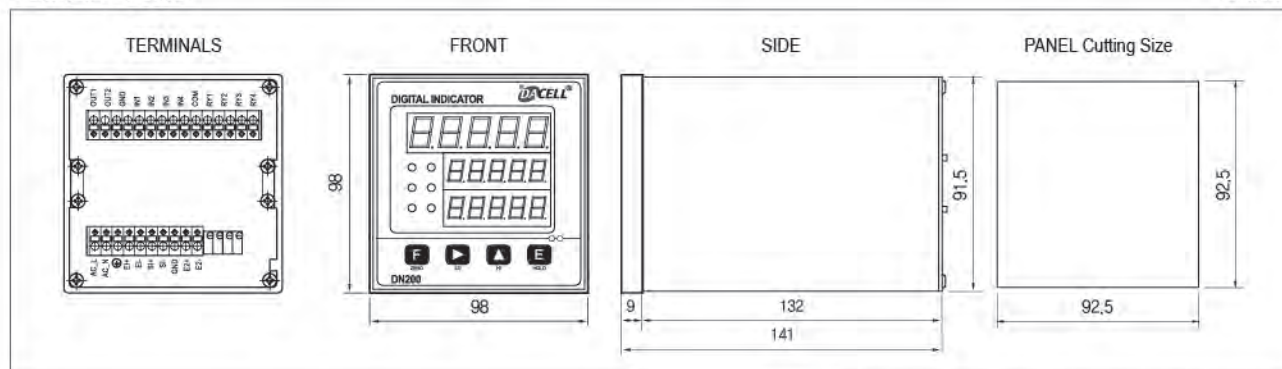
Specifications	Accuracy
Application sensor	Strain Gauge sensor
Sensor authorized voltage (the number of Loadcell connection)	DC 5V (Load cell(350Q) available 4)
Zero adjustment range	100% F.S (Auto Zero)
Input signal	0.5 ~ 3mV/V
Display	-19999 ~ +99999
Character height	7 segment LED 14mm & 10mm
AD converter	24 bit 2,000 sps
DA converter	16 bit 2kHz
Temperature Characteristic	$\pm 10\text{ppm}/^\circ\text{C}$
Analog output	DC 0 ~ $\pm 10\text{V}$ or 4~20mA(Selective use)
Relay output	Contact capacity : 250VAC/3VDC 3A Relay life time : Over 10^7 , Over 10^5 under the rated load)
Usage temperature range	$-10^\circ\text{C} \sim 60^\circ\text{C}$
Humidity	Less than 80% RH (no dewing.)
Power source used	AC 90 ~ 240V 50/60Hz 8VA
Sizes	96×98×141mm
Panel cutting size	92.5×92.5mm
Weight	About 700g

■ Option

- OP-01 : BCD out
- OP-02 : RS232C (Default Mounting)
- OP-03 : RS485
- OP-04 : RS422A
- OP-10 : Power DC24V 0.3A
- OP-14 : Input signal 5mV/V
- OP-15 : Input signal 10mV/V

> DIMENSIONS

unit:mm



Specifications are subject to change without notice.

High Speed Digital Indicator

> Model DN200

The DN200 have designed specifically to operate with strain gauge sensors such as DN-200 is used in places where high-speed measurements are needed (such as screw fastening, liquid filling or impact testing). It has high-speed responsiveness and high precision. The upper and lower limit settings are displayed.

- High resolution (24 bit ADC, 16 bit DAC)
- High precision (0.01% F.S. or higher) and stability
- High sampling speed (2,000 sps)
- Calibration of actual load and sensor output value
- Watch dog
- Unit conversion function (kg, N, l b, kg/cm², bar, MPa)
- Auto zero capability (Digital Display and Analog Output Simultaneous Zero)
- Peak & sample hold
- 4 Relay Contact Output
- Modbus RTU protocol



> SPECIFICATIONS

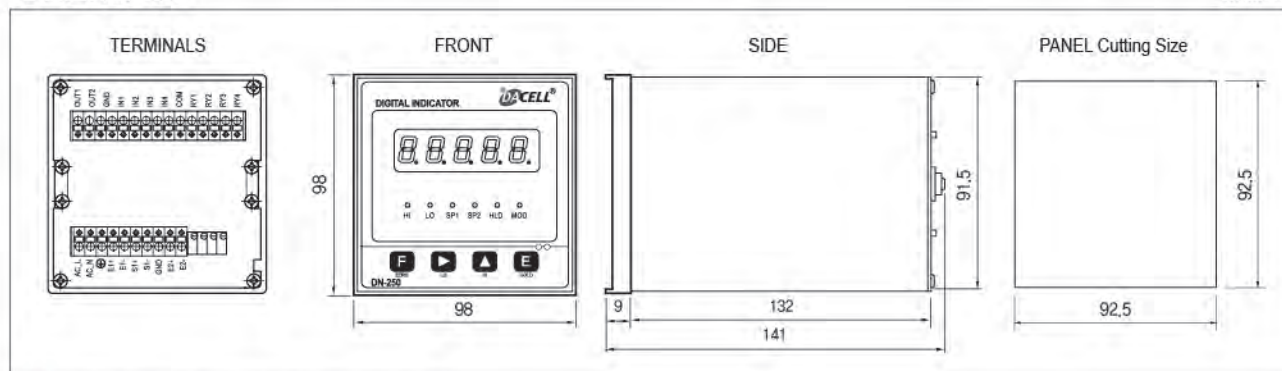
Specifications	Accuracy
Application sensor	Strain Gauge sensor
Sensor authorized voltage (the number of Loadcell connection)	DC 5V (Load cell(350Ω) available 4)
Zero adjustment range	100% F.S (Auto Zero)
Input signal	0.5 ~ 3mV/V
Display	-19999 ~ +99999
Character height	7 segment LED 14mm & 10mm
AD converter	24 bit 7,000 sps
DA converter	16 bit 7kHz
Temperature Characteristic	±10ppm/°C
Analog output	DC 0 ~ ±10V or 4~20mA(Selective use)
Relay output	Contact capacity : 250VAC/3VDC 3A Relay life time : Over 10 ⁷ , Over 10 ⁵ under the rated load)
Usage temperature range	-10°C ~ 60°C
Humidity	Less than 80% RH (no dewing.)
Power source used	AC 90 ~ 240V 50/60Hz 8VA
Sizes	96×98×141mm
Panel cutting size	92.5×92.5mm
Weight	About 700g

■ Option

- OP-01 : BCD out
- OP-02 : RS232C (Default Mounting)
- OP-03 : RS485
- OP-04 : RS422A
- OP-10 : Power DC24V 0.3A
- OP-14 : Input signal 5mV/V
- OP-15 : Input signal 10mV/V

> DIMENSIONS

unit:mm



Specifications are subject to change without notice.

2ch Digital Indicator

> Model DN-130L

DN-130L is 2channels indicator to operate with strain gauge sensors such as Fast – measurement of Load cell, Pressure Transducer, LVDT, etc. Digital display and analog output, comparison output are available.

- 2 channel indicator
- High resolution (24 bit ADC, 16 bit DAC)
- High precision (0.01% F.S.) and stability
- Calibration of actual load and sensor output value
- Watch dog
- Unit conversion function (kg, N, lb, kg/cm², bar, MPa)
- Auto zero capability (Digital Display and Analog Output Simultaneous Zero)
- Peak & sample hold
- Relay output : Hi, Low
- 2 Relay contact output per channel
- Modbus RTU protocol



> SPECIFICATIONS

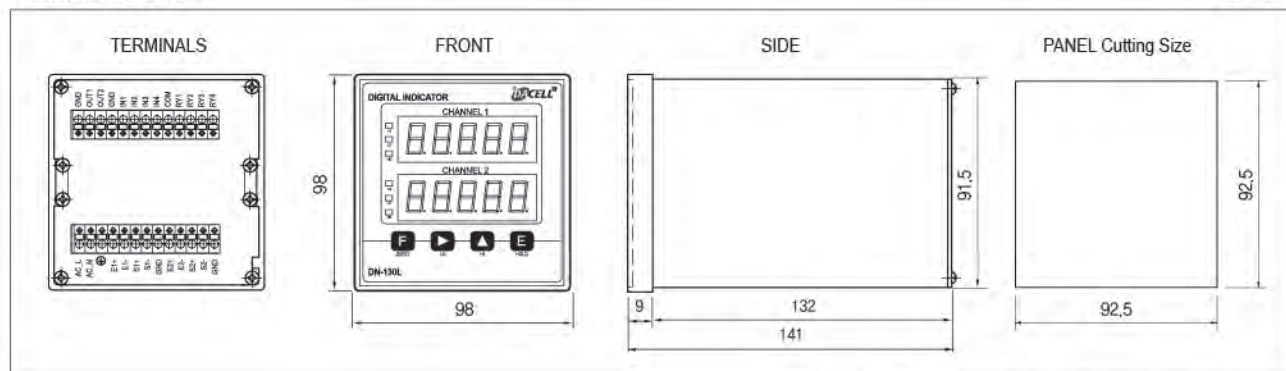
Specifications	Accuracy
Application sensor	Strain Gauge sensor
Sensor authorized voltage	DC 5V (Load cell(350Ω) available 4)
Zero adjustment range	100% F.S (Auto Zero)
Input signal	0.5 ~ 3mV/V
Display	-19999 ~ +99999
Character height	7 segment LED 14mm
AD converter	24 bit 100 sps/channel
DA converter	16 bit 100 Hz/channel
Temperature Characteristic	±10ppm/°C
Analog output	DC 0 ~ ±10V or 4~20mA(Selective use)
Relay output	Contact capacity : 250VAC/3VDC 3A Relay life time : Over 10 ⁷ , Over 10 ⁶ under the rated load)
Usage temperature range	-10°C ~ 60°C
Humidity	Less than 80% RH (no dewing.)
Power source used	AC 90 ~ 240V 50/60Hz 8VA
Sizes	96×98×141mm
Panel cutting size	92.5×92.5mm
Weight	About 700g

■ Option

- OP-01 : BCD out
- OP-02 : RS232C (Default Mounting)
- OP-03 : RS485
- OP-06 :
Channel 1 – Sensor input 0~3mV/V (Loadcell)
Channel 2 – Sensor input 0~10V (LVDT)
- OP-10 : Power DC24V 0.3A
- OP-14 : Input signal 5mV/V
- OP-15 : Input signal 10mV/V

> DIMENSIONS

unit:mm



Specifications are subject to change without notice.

2ch Digital Indicator

> Model DN-130T, DN-230A

These indicators can use Torque and RPM measurement at the same time. Digital display and analog output, comparison output are available.

- Torque, RPM simultaneous measurement
- High resolution (24bit ADC, 16bit DAC)
- High precision (more than 0.01% F.S) and stability
- Calibration of actual load and sensor output value
- Unit conversion : kg, N, l b, kg/cm², bar, MPa
- Quick sampling speed (2000times/sec)
- Watch dog
- Upper and lower limit comparison output (Torque, RPM)
- 2 Relay contact output per channel
- Analog output (Torque, RPM)
- Analog out (DAC) : Display part and analogue zero by auto zero
- Modbus RTU protocol



■ Option

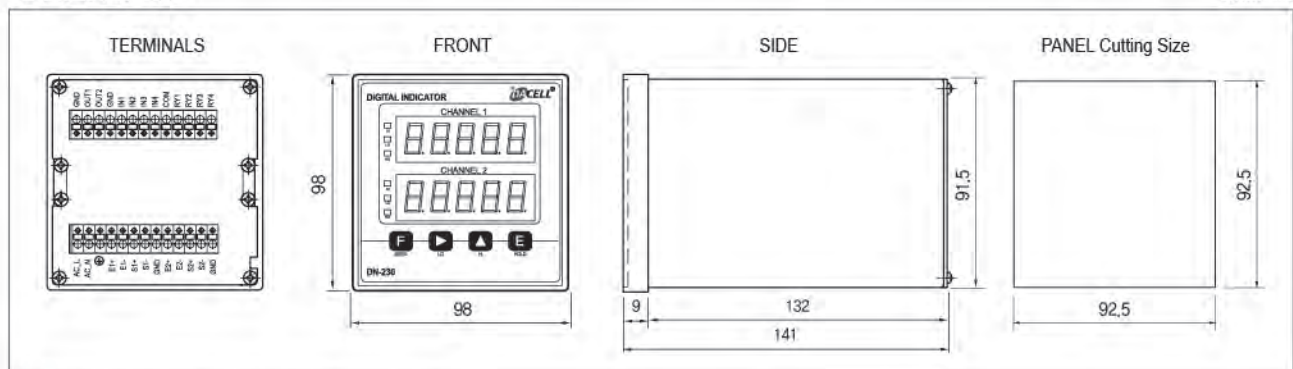
- OP-01 : BCD out
- OP-02 : RS232C (Default Mounting)
- OP-03 : RS485
- OP-10 : Power DC24V 0.3A

> SPECIFICATIONS

Specifications	Accuracy	
	DN130T	DN230A
Application sensor	Torque : Brush type torquemeter (TRB) RPM : Proximity sensor (MP981, RS-025)	Torque : Brushless type torquemeter (TRC) RPM : Proximity sensor (MP981, RS-025)
Sensor authorized voltage	Torque : DC 5V / RPM : DC 12V	Torque : DC 2Vrms, 5kHz / RPM : DC 12V
Input signal	Torque : 0.5 ~ 3mV/V / RPM : DC 12V	Torque : 0.5 ~ 2mV/V / RPM : 1 ~ 350 pulse/circle
Zero adjustment range	Torque : 100% F.S (Auto Zero)	
Display	Torque : -19999 ~ +99999 / RPM : 0 ~ +99999	
Character height	7 Segment LED 14mm	
AD converter	Torque : 24 bit 2,000 sps / RPM : Input frequency 1 ~ 10kHz	
DA converter	Torque : 16 bit 2kHz / RPM : 16bit	
Temperature Characteristic	±10ppm/°C	
Analog output	DC 0 ~ ±10V or 4~20mA(Selective use)	
Relay output	Contact capacity : 250VAC/3VDC 3A Relay life time : Over 10 ⁷ , Over 10 ⁵ under the rated load)	
Usage temperature range	-10°C ~ 60°C	
Humidity	Less than 80% RH (no dewing.)	
Power source used	AC 90 ~ 240V 50/60Hz 8VA	
Sizes	96×98×141mm	
Panel cutting size	92.5×92.5mm	
Weight	About 700g	

> DIMENSIONS

unit:mm



Specifications are subject to change without notice.

Web Tension Indicator (2ch+Total)

> Model DN300

The DN-300 is 2ch indicator that displays the sensor values individually and sums.
DN-300 can be compared (summed, subtracted) using two sensors.
Analog and contact output for each channel and for the sum individually.

- High resolution (24bit ADC, 16bit DAC)
- High precision (more than 0.01% F.S) and stability
- Calibration of actual load and sensor output value
- Watch dog
- Hi, Low comparison output
- 2 Relay contact output per channel
- Analog out (DAC)
- Modbus RTU protocol



> SPECIFICATIONS

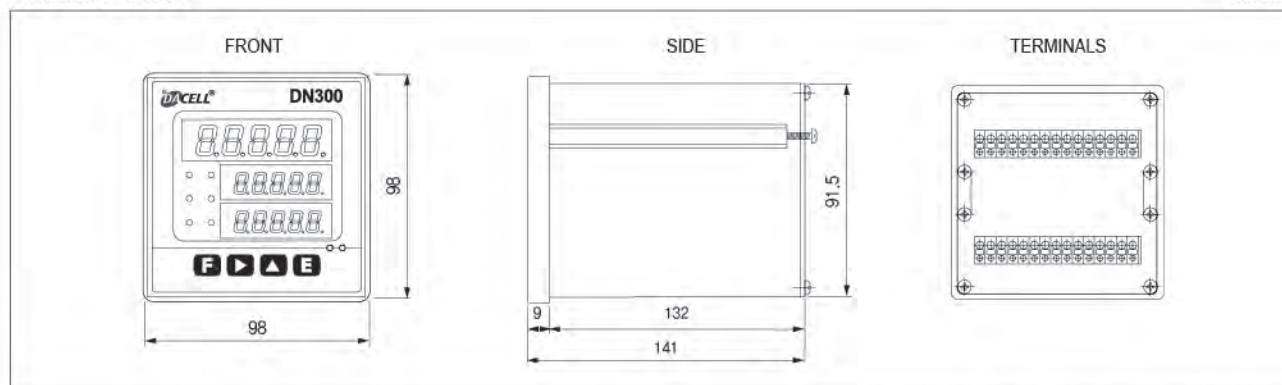
Specifications	Accuracy
Application sensor	Strain Gauge sensor
Channel	2 Channel
Sensor authorized voltage	DC 5V
Zero adjustment range	100% F.S (Auto Zero)
Input signal	0.5 ~ 3.5mV/V
Display	Individual display : -19999 ~ +99999 (channel 1, 2) Summing display : -19999 ~ +99999 (channel 3)
Character height	Individual display : 7 segment LED 10mm (channel 1, 2) Summing display : 7 segment LED 14mm (channel 3)
AD converter	24 bit 100 sps
DA converter	16 bit 100Hz
Temperature Characteristic	DC 0 ~ $\pm 10V$ or 4~20mA(Selective use)
Analog output	Contact capacity : 250VAC/3VDC 3A Relay life time : Over 107, Over 105 under the rated load)
Relay output	-10°C ~ 60°C
Usage temperature range	-10°C ~ 60°C
Humidity	Less than 80% RH (no dewing.)
Power Source Used	AC 90 ~ 240V 50/60Hz 8VA
Outer Diameter (W×H×D)	98×98×141mm
Panel Cutting Size	92.5×92.5mm
Weight	About 700g

■ Option

- OP-01 : BCD parallel out (channel 3)
- OP-02 : RS232C (Default Mounting)
- OP-03 : RS485
- OP-10 : Power DC24V 0.3A
- OP-14 : Input signal 5mV/V
- OP-15 : Input signal 10mV/V

> DIMENSIONS

unit:mm



Specifications are subject to change without notice.

Total Indicator (3 ~ 4ch)

> Model DN330, DN340

Digital indicator that displays the individual outputs and sum of the outputs of the four load cells. Suitable for high weight hopper, tank scale. Each load cell can be individually calibrated via the DSC40 and indicators.

- Watch dog
- Display part and analogue zero by auto zero (DAC)
- Analog out (DAC)
- Relay output : Hi, Low, NG, OK,
- DN330 : 3ch indicator (Using with DSC30)
- DN340 : 4ch indicator (Using with DSC40)

■ Option

- OP-01 : BCD parallel out
- OP-02 : RS232C serial interface (Standard installed)
- OP-03 : RS485 Multi drop interface



DN340



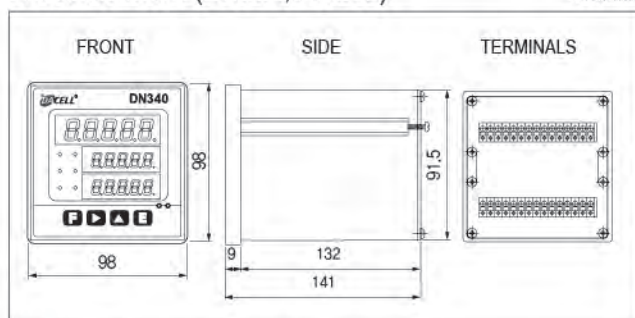
DSC40
(Digital Conditioner)

> SPECIFICATIONS

Specifications		Accuracy	
		DN340 (DN330)	DSC40 (DSC30)
Signal		—	1 ~ 3mV/V
Analog out		DC 0~10V (4 ~ 20mA option)	—
Excitation		—	DC 5V
Data Scan Time		30ms/ch x 4ch = 120ms	—
Available Sensors		—	Strain gauge sensor (0.5~3mV/V)
Display range		Individual display : -1999 ~ +9999 Sum display : -19999 ~ +99999	—
AD converter		—	24bit
DA converter		16bit	—
Temperature-drift	Zero	—	Within 0.5μV/°C
	Span	—	Within 50ppm/°C
Measurement display		Individual : 7 segment LED 8mm, Sum : 7 segment LED 14mm	—
Status LED		Red LED 6 EA	—
Key switch		4 EA	—
Comparison Output		Upper limit (HI), lower limit (LO), Normal (OK) Output (4 Relay)	—
Contact capacity		AC 250V 5A	—
Usage temperature range		-10°C to 60°C, 80% RH or less (no condensation)	-10°C to 60°C, 80% RH or less (no condensation)
Power supply		AC 90 ~ 240V 50/60Hz	DC 8 ~ 12V, 2W
Cable grand		—	Ø7mm cable grand 5ea
Option		RS485	—
Outer Diameter (W×H×D)		98×98×141mm	125×80×58mm
Panel Cutting Size		92.5×92.5mm	—
Weight		About 600g	About 350g

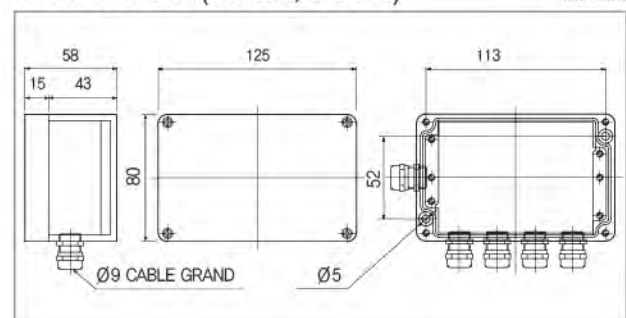
> DIMENSIONS (DN330, DN340)

unit:mm



> DIMENSIONS (DSC30, DSC40)

unit:mm



• Specifications are subject to change without notice.

Digital Indicator

> Model UWT 6008

Mounting type: 35 mm DIN rail.

Allows to display separately up to a maximum of 8 channels.

The advantages of transmitting the individual weight values of the load cells.

- Independent display of the output in mV / V and of the weight value of each individual cell.
- Monitoring of all load cells and alarm generation for excessive cell signal drifts, missing connections, failure of one of the cells, unbalanced weight distribution.
- The emulative control allows the continuity of work of the weighing system even in case of failure on a single load cell, until repair or replacement.

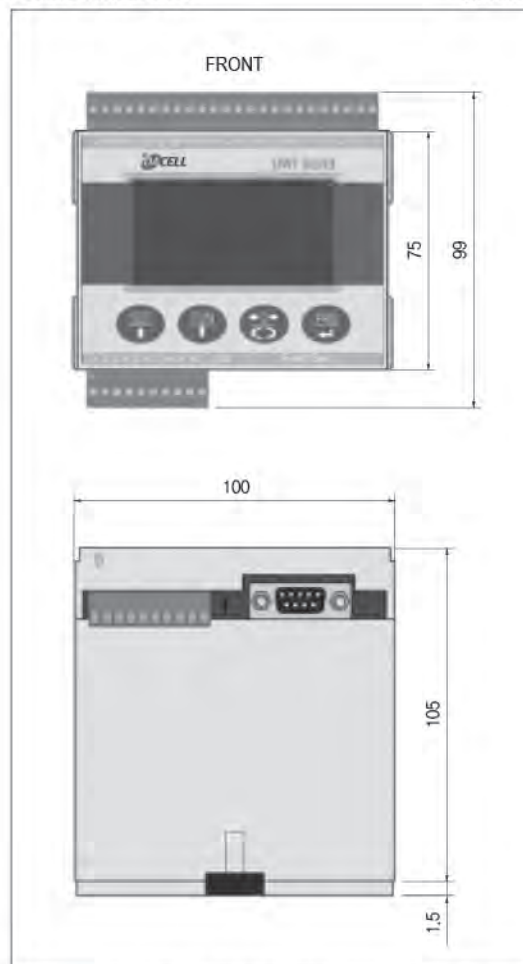


> SPECIFICATIONS

Specifications	Accuracy
Measuring range	-3.9 ~ +3.9 mV/V
Input sensitivity	0.02 μ V/count
Full scale non-Linearity	< 0.01%
Gain drift	< 0.001% FS/°C
Display	128 x 64-pixel graphic LCD
A/D Converter	24 bits
Internal Resolution	> 16,000,000 points
Transducer input voltage	5 Vdc (max. 230 mA)
Frequency signal acquisition	12.5 ÷ 300 Hz
Visible resolution (in divisions)	999999
Divisions value (adjustable)	x1, x2, x5, x10, x20, x50
Decimal figures range	0 ~ 4
Temperature range	-10 ~ +50°C (humidity max 85% no condensation)
Storage temperature	-20 ~ +70°C
Filter	5 ÷ 250 Hz
Logic output	2 relays, Max. 48 Vac/Vdc, 2A each
Logic input	2 opto-isolated at 12/24 Vdc PNP (external power supply)
Serial port	1 USB device + 1 RS232C + 1 RS485, Fieldbus, ASCII or Modbus RTU
Analog output Non-Linearity	< 0.02%
Temperature drift analog output	0.001% FS/°C
Power supply	12-24 Vdc $\pm$ 15% - Power consumption 4 W
Microcontroller	ARM Cortex M0+ at 32 bits, 256KB Flash reprogrammable on-board from USB
Data storage	64 Kbytes expandable up to 1024 Kbytes
Regulatory compliance	EN61000-6-2, EN61000-6-3 for EMC; EN61010-1 for Electrical Safety, EN45501 for metrology
Number of load cells	1 ~ 8
Dimensions	100 x 75 x 110 mm (L x H x P)

> DIMENSIONS

unit:mm



Specifications are subject to change without notice.

> Model DAT11

Small size and compact design.

The 3 keys located below the display and protected by the front door allow the Operator to perform the functions of ZERO and CALIBRATION as well as datasheet and real calibration.

- Mounting type: 35 mm DIN rail mounting
- Detachable screw terminal blocks,
- Fast Data Processing
- Multiple serial interfaces (RS485, RS232, ASCII and Modbus RTU protocols)
- The analog output (4~20 mA, 0~10Vdc)
- Two relay output



> SPECIFICATIONS

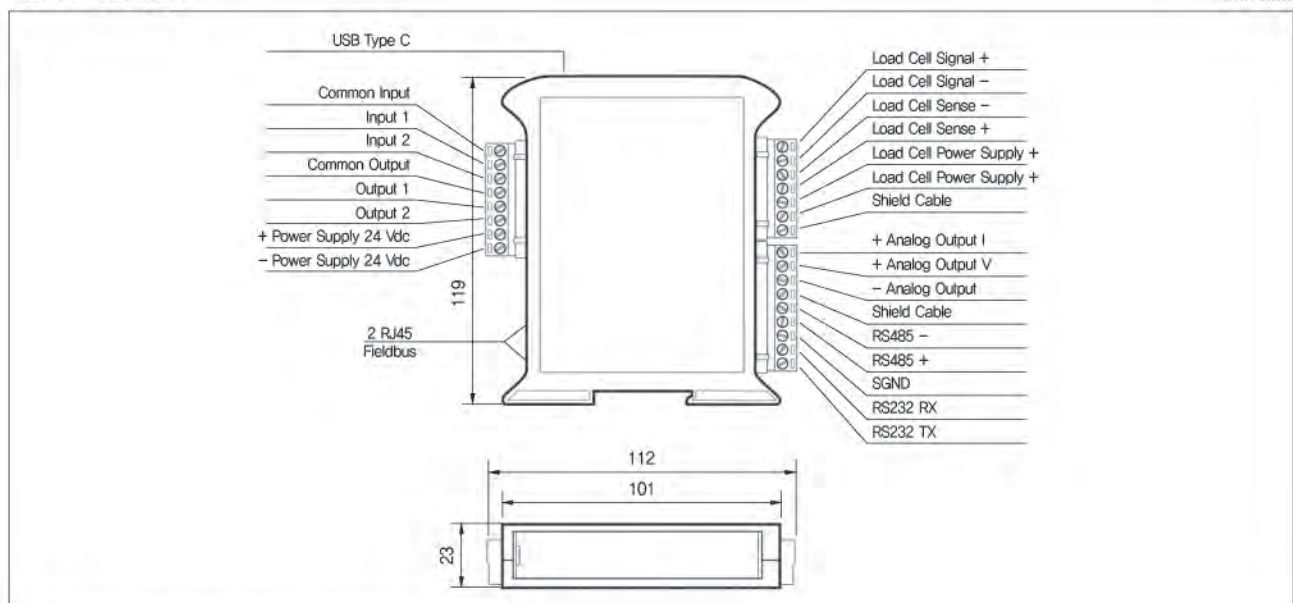
Specifications	Accuracy
Power supply	24 Vdc $\pm 10\%$ – power consumption 5 W
Measuring range	$-7.6 \sim +7.6$ mV/V
Full scale non-Linearity	$< 0.01\%$
Display	6 digit, 7-segment LED red, height 8mm
A/D Converter	24 bit
Analog output Non-Linearity	$< 0.03\%$
Filter	0.1 ~ 250 Hz
Excitation voltage	4 Vdc (max 4 ~350 Ohm– load cells)
Divisions value (adjustable)	x1, x2, x5, x10, x20, x50
Temperature range	$-10 \sim +50^{\circ}\text{C}$ (max umidity 85% without condensation)
Storage temperature	$-20 \sim +60^{\circ}\text{C}$
Logic output	2 optoisolated outputs; max 24 Vdc/100 mA each
Logic input	2 optoisolated inputs 24 Vdc PNP (external power supply)
Regulatory compliance	EN61000–6–2, EN61000–6–3 for EMC; EN61010–1 for Electrical Safety; EN45501 for Metrology

■ AVAILABLE VERSION

- DAT 11/A : Version with the analog output.
- DAT 11/PROFINET : Weight transmitter with RS232 serial output, USB and PROFINET.
- DAT 11/ETHERNET IP : Weight transmitter with serial output RS232 and ETHERNET IP.
- DAT 11/ETHERCAT : Weight transmitter with serial output RS232 and ETHERCAT.
- DAT 11/ETHERNET : Weight transmitter with serial output RS232 and ETHERNET.
- DAT 11/PROFIBUS : Weight transmitter with serial output RS232 and PROFIBUS.
- DAT 11/CANOPEN : Weight transmitter with serial output RS232 and CANOPEN.

> DIMENSIONS

unit:mm



Specifications are subject to change without notice.

Digital Weighing Indicator



> Model DN500N

- Platform scale, Truck scale, Tension/compression tester, Horse weigher, etc.
- 50 kind of parts number can be memorized
- Watch-dog function installed for diagnostics
- Data back up against power stoppage.
- Front display window covered by lexan film for the protecting of dust
- Weighing judgment by over & under setting when printer is connected
- Three kinds of hold function (peak-hold and averagehold, auto-hold)
- Can drive up to 8pcs of load cell (350.)
- RS-232C and Current loop standard installed

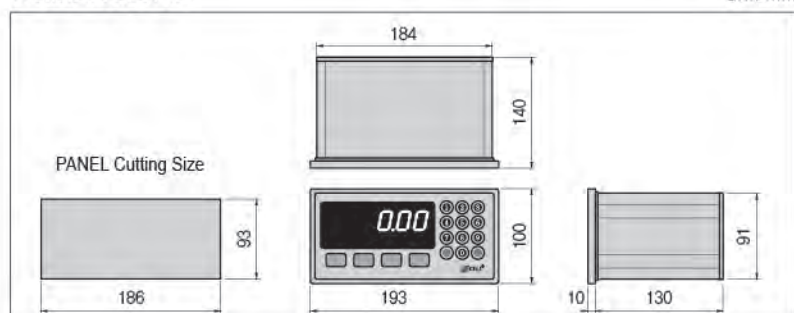
> SPECIFICATIONS

Specifications	Accuracy
Load cell excitation	10 VDC $\pm$ 5%, 320mA
A/D converting speed	200 times/sec
A/D converter resolution	1/520,000 counts(19bits), $\Delta \Sigma$
Nonlinearity	0.01% of full scale
Zero adjustment range	-0.6mV $\sim$ 42mV
Display Unit	7 segment, 20.0mm(H) $\times$ 13.0(W)mm
Annunciator	steady, zero, tare, gross, auto, print, hold, Interface
Decimal point position	0, 0.0, 0.00, 0.000
Keyboard	Number key and function key 16 PCS
Temperature-drift	Zero $\pm$ 20PPM/ $^{\circ}$ C, Span $\pm$ 20PPM/ $^{\circ}$ C
Rear panel	Loadcell input : 5pin connector External control : 12pin input terminal (zero, tare, tare reset/hold/print, gross/hold reset/subprint, Current loop, RS232C)
Power	SMPS Free Voltage (85V $\sim$ 265V)

■ Option

- ① Analog Out-put (V-out) : 0 $\sim$ 10V
 ② Analog Out-put (I-out) : 4 $\sim$ 20mA
 ③ Serial I / F : RS-422, RS-485
 ④ BCD In-put
 ⑤ BCD In-out
 ※ RS232C and Current loop : Standard Installed

> DIMENSIONS



unit:mm



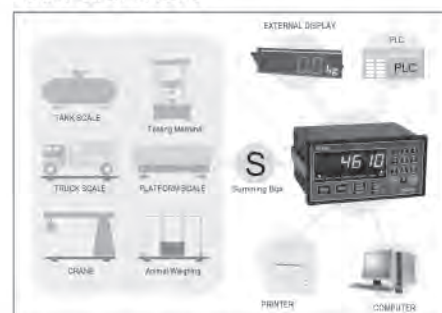
> Model DN510N

- Control for PACKER, FILLER, HOPPER, CHECKER, LIMIT SCALE etc.
- Totaling function by Parts,(50 parts)
- 4 Step control (SP1, SP2, SP3, SP4)
- 6 control relay built-in (SP1, SP2, SP3, SP4, FINISH, NEAR ZERO)
- Various Relay output mode (LIMIT, PACKER, CHECKER1, CHECKER2)
- Improved A/D Conversion speed and resolution (Max. 200times, 1/520,000)

> SPECIFICATIONS

Specifications	Accuracy
Load cell excitation	10 VDC $\pm$ 5%, 320mA
A/D converting speed	200 times/sec
A/D converter resolution	1/520,000 counts(19bits), $\Delta \Sigma$
Nonlinearity	0.01% of full scale
Zero adjustment range	-0.6mV $\sim$ 42mV
Display Unit	7 segment, 20.0mm(H) $\times$ 13.0(W)mm
Annunciator	steady, zero, tare, gross, auto, print, hold, Interface
Decimal point position	0, 0.0, 0.00, 0.000
Keyboard	Number key and function key 12 PCS
Temperature-drift	Zero $\pm$ 20PPM/ $^{\circ}$ C, Span $\pm$ 20PPM/ $^{\circ}$ C
Rear panel	Loadcell input : 5pin connector External control : 12pin input terminal (zero, tare, tare reset/hold/print, gross/hold reset/subprint, Current loop, RS232C)
Power	SMPS Free Voltage (85V $\sim$ 265V)

> APPLICATION



Specifications are subject to change without notice.

Digital Weighing Indicator



> Model DN520N

- Application of Packer, Filler, Hopper, Checker, Limit Scale, etc.
- Totaling function by Parts, (50 parts)
- 2 Step Control (SP1, SP2)
- 6 Control RELAY according to MODE
 - LIMIT, PACKER MODE : (SP1, SP2, FINISH, UNDER NG, OVER NG, ZERO)
 - CHECKER MODE 1, 2, 3: (SP1[LOW], SP2[HIGH], OK, NG, ZERO)
- RELAY OUTPUT MODE : LIMIT, PACKER, CHECKER
- Improved A/D Conversion

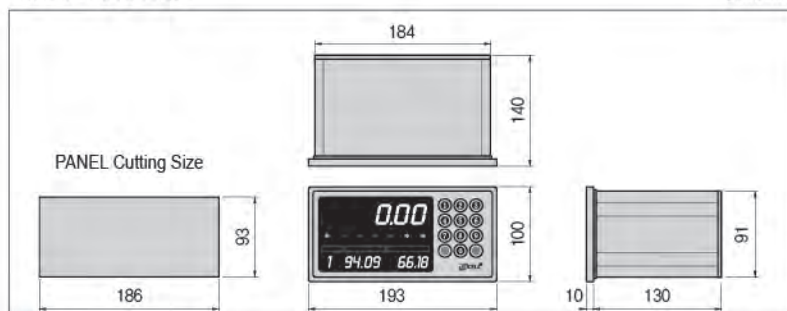
> SPECIFICATIONS

Specifications	Accuracy
Load cell excitation	10 VDC±5%, 320mA
A/D converting speed	200 times/sec
A/D converter resolution	1/520,000 counts(19bits), $\Delta \Sigma$
Nonlinearity	0.01% of full scale
Zero adjustment range	-0.6mV~42mV
Display Unit	7 segment, 20.0mm(H)×13.0(W)mm
Annunciator	steady, zero, tare, gross, auto, print, hold, Interface
Decimal point position	0, 0.0, 0.00, 0.000
Keyboard	Number key and function key 12 PCS
Temperature-drift	Zero ±20PPM/°C, Span ±20PPM/°C
Rear panel	Loadcell input : 5pin connector External control : 12pin input terminal (zero, tare, tare reset/hold/print, gross/hold reset/subprint, Current loop, RS232C) control relay output : 7pin terminal
Power	SMPS Free Voltage (85V~265V)

■ Option

- ① Analog Out-put (V-out) : 0~10V
- ② Analog Out-put (I-out) : 4~20mA
- ③ Serial I / F : RS-422, RS-485
- ④ BCD In-put
- ⑤ BCD In-out
- ※ RS232C and Current loop : Standard Installed

> DIMENSIONS



• Specifications are subject to change without notice.



> Model DN530N

- Application of Packer, Filler, Hopper, Limit, Loss-In weighing
- 3 Step Control (PRESET1, PRESET2, PRESET3)
- 6 Control RELAY MODE : SP1, SP2, SP3, FINISH, ERROR, NEAR, ZERO
- RELAY OUTPUT MODE : (LIMIT, PACKER, DISCHARGE LIMIT, LOSS IN MODE1, LOSS IN MODE2)
- Improved A/D Conversion speed and resolution (Max. 200times, 1/520,000)

> SPECIFICATIONS

Specifications	Accuracy
Load cell excitation	10 VDC±5%, 320mA
A/D converting speed	200 times/sec
A/D converter resolution	1/520,000 counts(19bits), $\Delta \Sigma$
Nonlinearity	0.01% of full scale
Zero adjustment range	-0.6mV~42mV
Display Unit	7 segment, 20.0mm(H)×13.0(W)mm
Annunciator	steady, zero, tare, gross, auto, print, hold, Interface
Decimal point position	0, 0.0, 0.00, 0.000
Keyboard	Number key and function key 12 PCS
Temperature-drift	Zero ±20PPM/°C, Span ±20PPM/°C
Rear panel	Loadcell input : 5pin connector External control : 12pin input terminal (zero, tare, tare reset/hold/print, gross/hold reset/subprint, Current loop, RS232C) control relay output : 7pin terminal
Power	SMPS Free Voltage (85V~265V)

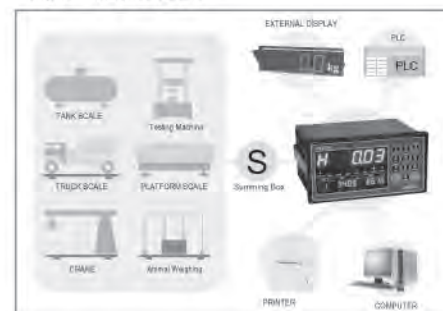
■ Option

- ① Analog Out-put (V-out) : 0~10V
- ② Analog Out-put (I-out) : 4~20mA
- ③ Serial I / F : RS-422, RS-485
- ④ BCD In-put
- ⑤ BCD In-out
- ※ RS232C and Current loop : Standard Installed

> RELAY MODE

Capacity	OUT1	OUT2	OUT3	OUT4	OUT5	OUT6
Limit ("A" Dry)	SP1	SP2	SP3	Low N.G	High N.G	Zero
Packer ("B" Dry)	SP1	SP2	SP3	Finish	N.G	Zero
Discharge Limit	SP1	SP2	SP3	Low N.G	High N.G	Zero
Feed Discharge	SP1(Feed)	SP2(Dis1)	SP3(Dis2)	Low N.G	High N.G	Zero
1 Feed / 2 Discharge	SP1(Feed)	SP2(Dis1)	SP3(Dis2)	Finish	N.G	Zero
2 Feed / 1 Discharge	SP1(Feed)	SP2(Dis1)	SP3(Dis2)	Finish	N.G	Zero

> APPLICATION





> Large Display Series DA-MR900 Series

- High brightness FND
- Easy to check the weight from far distance
- Wall mounting type
- Uniform brightness and Wide angle viewing

> Model DN-550N

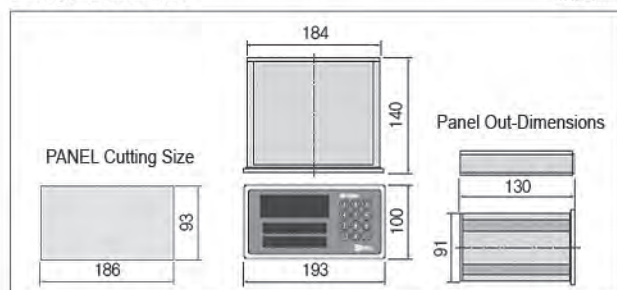
- Multiple Accumulating Mixture Control Indicator
- Mas 16kinds Materials Mixed with 50 Formulas
- 2 Step Control (DRIB, FINAL)
- 6 Control RELAY (FINAL, DRIB, FINISH, BATCH FINISH, ZERO)

> SPECIFICATIONS

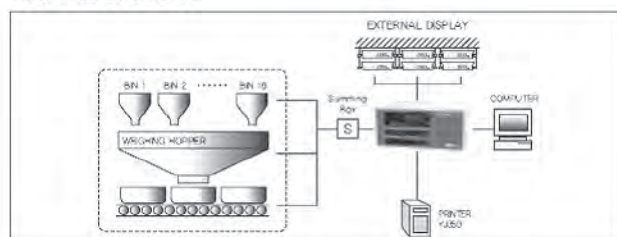
Specifications	Accuracy
Load cell excitation	10 VDC $\pm$ 5%, 320mA
Input signal	0.5 ~ 3mV/V
A/D converting speed	200 times/sec
A/D converter resolution	1/520,000 counts(19bits), $\Delta \Sigma$
Nonlinearity	0.01% of full scale
Zero adjustment range	-0.6mV $\sim$ 42mV
Display Unit	7 segment, 20.0mm(H) $\times$ 13.0(W)mm
Annunciator	steady, zero, tare, gross, sp1, sp2, run
Decimal point position	0, 0.0, 0.00, 0.000
Keyboard	Number key and function key 12 PCS
Temperature-drift	Zero $\pm$ 20PPM/ $^{\circ}$ C, Span $\pm$ 20PPM/ $^{\circ}$ C
Rear panel	Loadcell input : 5pin connector Remote control : 5pin input terminal (start, stop, tare, tare reset, zero) BCD input : 25pin connector control relay output : 7pin terminal (final, drib, finish, batch finish, zero)
Power	SMPS Free Voltage (85V $\sim$ 265V)

> DIMENSIONS

unit:mm



> APPLICATION



DA-MR900



DA-MR930



DA-MR940



DA-MR960



> SPECIFICATIONS

Model	MR900	MR930	MR940	MR960
Digits	5 DIGIT (99999)			
Size of digit (WXH)	33X75mm	43X76mm	60X100mm	87X150mm
Size (inch)	2.3	3	4	6
Display	7 Segment high brightness FND			
Interface	RS-232C & CURRENT LOOP			
Dimensions (WxDxH)	360X150X120	500X155X155	700X210X180	850X205X205
Weight(kg)	About 5.8	About 6.1	About 7.5	About 15.2
Power	AC 85 $\sim$ 264V	AC 85 $\sim$ 264V	AC 85 $\sim$ 264V	AC 110 $\sim$ 220V

Specifications are subject to change without notice.

> Model DN-830

- Simulating Calibration
- Multi – Functional Control purpose Indicator
 - Limit / Packer / Checker / Testing Application
- 3pcs Control Relay built in
- 1/8 Din Size (96(W)×48mm(H))
- A/D Sampling : 200times/sec
- Peak / Sample / Average Hold Function
- Display Resolution : 1/30,000
- Power : DC 12V~24V
- Rs-232C Serial Interface built in (Standard)



■ Option

- OP-01 : RS-422
- OP-02 : RS-232 (Standard Installation)
- OP-05 : 4~20mA (Analogue Output)
- OP-06 : 0~10V (Analogue Output)

> SPECIFICATIONS

Specifications	Accuracy
Input Sensitivity	0.2 μ V/ Digit
Load Cell Excitation	DC 10V (-5V ~ +5V)
Max. Signal Input Voltage	Max. 32mV
Temperature Coefficient	[Zero] ± 10 PPM/ $^{\circ}$ C / [Span] ± 10 PPM/ $^{\circ}$ C
Input Noise	$\pm 0.6\mu$ V P.P
Input Impedance	Over 10M Ω
A/D Conversion Method	Sigma-Delta
A/D Resolution (Internal)	520,000 Count (19bit)
A/D Sampling Rate	Max. 200 times/Sec
Non-Linearity	0.01% FS
Display Resolution (External)	1/30,000

> RELAY MODE

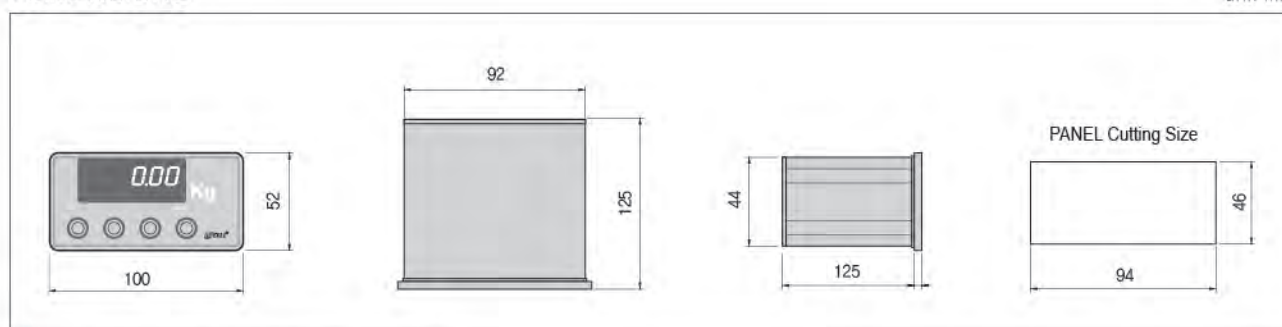
Capacity	OUT1	OUT2	OUT3
Limit ("A" Dry)	Zero	SP2	SP1
Packer ("B" Dry)	Zero	SP2	SP1
Checker (Stable mode)	OK	High	Low
Checker (Range mode)	OK	High	Low

> APPLICATION



> DIMENSIONS

unit:mm



★ Specifications are subject to change without notice.

Pocket Indicator



> Model PDN-10

HAND-HELD TYPE.

The PDN-10 has been designed specifically to operate with strain gauge sensors such as Load cell, Pressure Transducer, LVDT, etc.

Pocket indicator with battery.

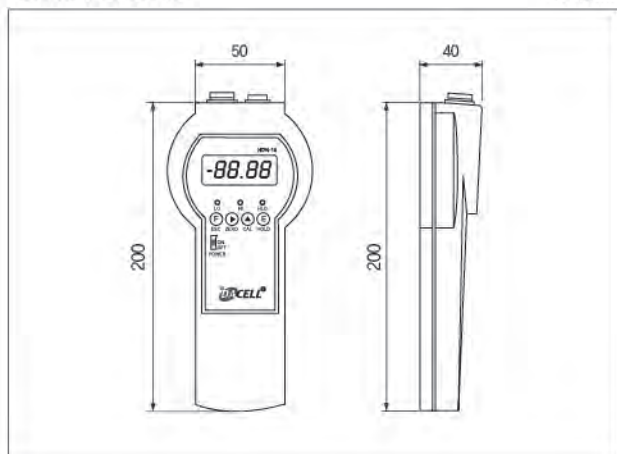
- Peak hold
- Auto Zero
- Measuring Data Saving (Max 500pcs.)
- Hi, Low Display LE

>SPECIFICATIONS

Specifications	Accuracy
Power source	DC 1.5V×4EA (AAA size) battery
Electric current consumption	15mA
Load cell input range	1.0mV/V~3.0mV/V, Potentiometer : 100~10KΩ
Display	4 1/2 Digit LCD
Characters displayed	-1999 ~ +1999
Display speed	Approx. 10 times/sec
Decunak point Position	0, 0.0, 0.00, 0.000
A/D Sampling speed	100 times/sec
A/D Resolution	16 bit
Zero adjust range	100% F.S (AUTO ZERO)
Data storage	500 data can be memorised
Data output	RS232C Serial Interface

>DIMENSIONS

unit:mm



> Model PDN-20

The PDN-20 has been designed specifically to operate with strain gauge sensors such as Load cell, Pressure Transducer, LVDT, etc.

Pocket indicator with rechargeable battery.

■Peak hold function

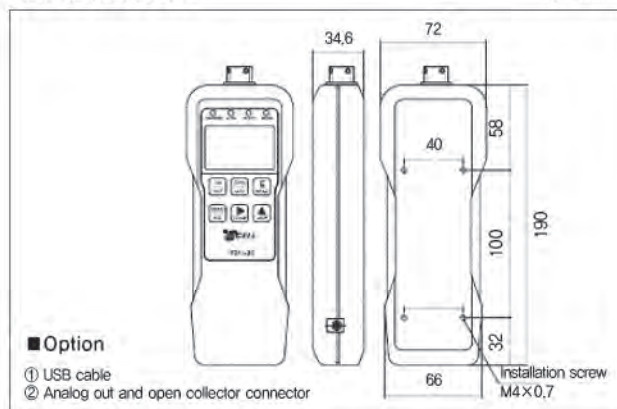
- ±NG, OK judgments with LED display (with open collector output)
- Connectable to computer through USB output cable (standard accessory)
- Display reverse function.
- Ergonomic, heavy-duty metal construction
- Unit conversion : N, kgf, lbf, ozf

>SPECIFICATIONS

Specifications	Accuracy
Usable Sensor	Strain gauge type sensor (Bridge 120Ω, 350Ω, 700Ω)
Range of Indication	-99999 to +99999
A/D Transducer	16bit, 100 times/sec
D/A Transducer	12bit
Indication of Measuring Value	5 digits LCD, Right/reverse display available
Measuring Unit	Kgf, N, lbf, ozf
Condition indicating LED	Indication of charge and compare output condition
Compare Output	High, Low, Good
Analog Output	DC ±1V
Communication Output	USB
Range of using temperature	-10℃ to 40℃
Weight	Approximately 800g
Power	Nickel hydrogen (NiMH), Chargeable Adapter (DC 9V)
Continuous Use Life	Approximately 40 hours
Charging Time	Approximately 8 hours

>DIMENSIONS

unit:mm



Specifications are subject to change without notice.

Explosion Proof Indicator Summing Box / Remote Display

EXP Indicator

>SPECIFICATIONS

Specifications	Accuracy
Explosion Proof	EX IIB + H2T6
Pressure Rating	Ex tD A21 IP65 T85°C
Format Specification	DIND-Mi-EXP100
Load Cell Excitation	DC 10V (±5V)
Max. Signal Input Voltage	Max. 32mV
A/D Resolution(Internal)	520,000 Count(19bit)
A/D Sampling Rate	Max. 200times / Sec
Display Unit	7 segment, 6 digit Red FND

> Model EXP-410N

3 Step Control

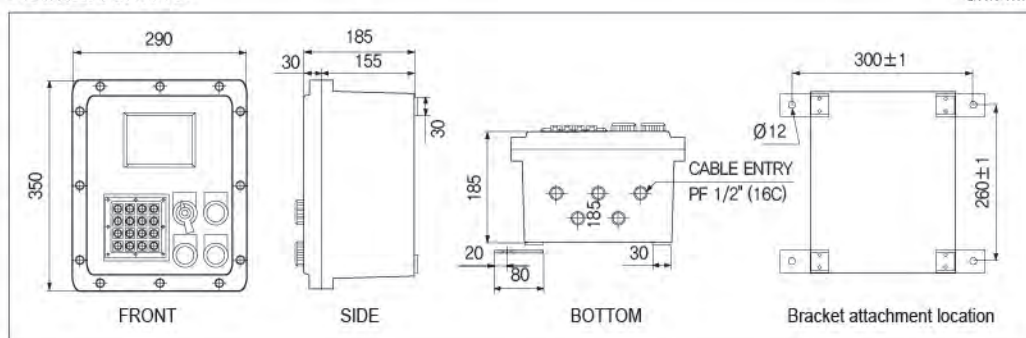
■ Option

- ① OP1 : RS-422 / RS-485
- ② OP2 : 0~10V (V-out)
- ③ OP3 : 4~20ma (I-out)
- ④ OP4 : BCD IN
- ⑤ OP5 : BCD OUT



>DIMENSIONS

unit:mm



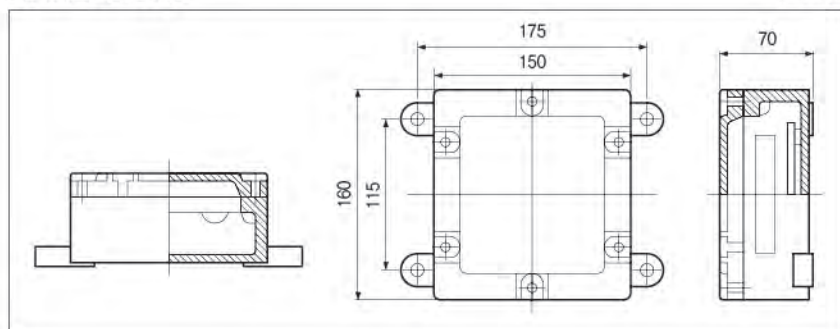
SUMMING BOX

Explosion Proof : EX IIB + H₂T₆

> Model EXP-SB4P

>DIMENSIONS

unit:mm



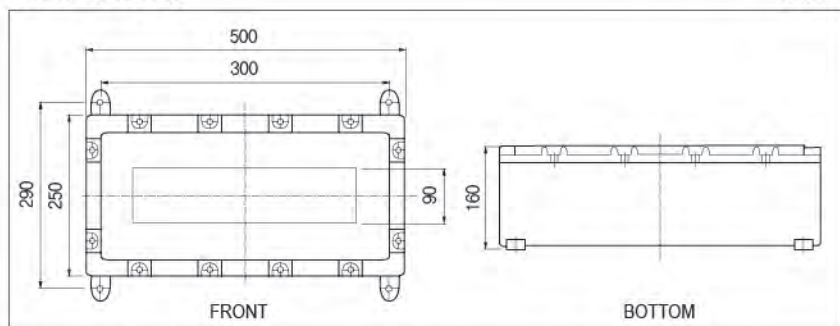
Remote Display

Explosion Proof : EX IIB + H₂T₆

> Model EXP900

>DIMENSIONS

unit:mm



* Specifications are subject to change without notice.

Over Load Limiter

> Model DN9000

Load limiter : Controller for overload protection (KOSHA certified product).

Buzzer sounds when overloaded..

Actual load calibration.

Easy installation and wiring.

- A/D converter : 24bit, 200times/sec.
- Output : OVER LOAD Alarm, Stop output, Contact Capacity AC 250V 5A
- Watch dog

■ Option

- OP1 : RS232C
- OP2 : RS485
- OP3 : RS422

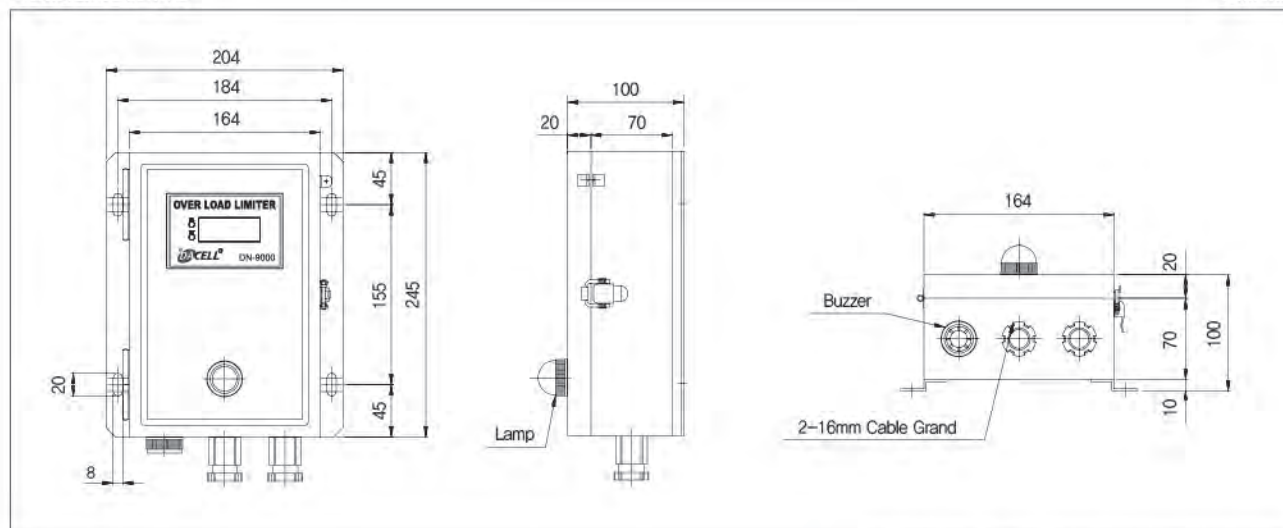


> SPECIFICATIONS

Specifications	Accuracy
Application sensor	Strain gauge sensor (350Ω or 700Ω)
Sensor authorized voltage	DC 5V (350Ω x 4 loadcells)
Zero adjustment range	100% F · S (Auto Zero)
Input signal	2mV/V / 0 ~ 10V / 4~20mA
AD converter	24bit (200 times/sec)
DA converter	16bit
Display	-19999 ~ +99999
Character height	7 segment 5 Digit, (H) 14mm
Zero variation	Within 0.5mV/°C
Sensitivity variation	Within 0.01%/°C
Voltage output	DC 0 ~ ±10V or 4~20mA
Usage temperature range	-10°C to 60°C
Power source used	AC 90~240V, 50/60Hz

> DIMENSIONS

unit:mm



Specifications are subject to change without notice.

Dynamic Strain Amplifier

> Model DN-AM100

As dynamic strain amplifier, it is designed and manufactured to be suitable for instrumentation control panel.

Application sensor : Torque transducer, Load cell, strain gauge type sensors, mV output type sensors etc.

- Built-in single step filtering function
- Built-in automatic temperature compensating circuit
- Easy to adjust zero and span by volume
- Option : Power DC 24V

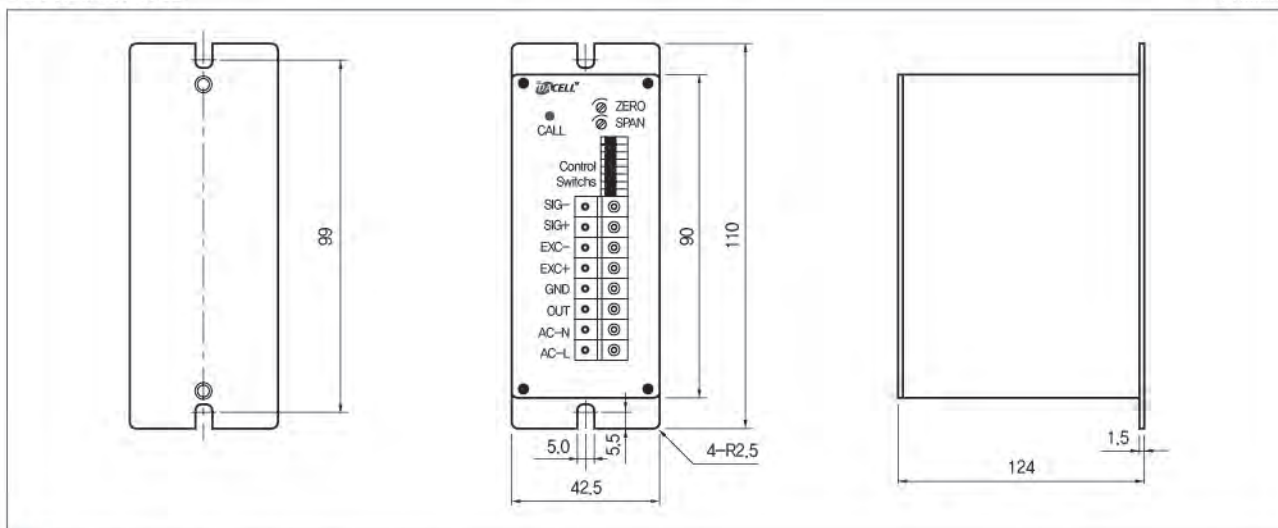


>SPECIFICATIONS

Specifications	Accuracy
Bridge voltage	Constant voltage DC 5V, 10V
Application Bridge resistance	100Ω ~ 1kΩ
Rated output	Voltage $\pm 10V$ (Load resistance more than 200Ω) Current 4~20mA (Load resistance less than 300Ω)
Zero adjustment range	10%, 10 rotations
Sensitivity adjustment range	1500 Multiplier
S/N rate	51dB
Answering frequency	DC~20kHz (-3dB)
Low pass filter	10Hz, 100Hz, 1kHz pass
Nonlinearity	$\pm 0.02\%$ F.S
Usage temperature range	-10°C to 60°C
Humidity	Less than 80% RH (no dew condensation)
Supply power	AC 220V 50/60Hz (AC 110V available by internal operation)

>DIMENSIONS

unit:mm



• Specifications are subject to change without notice.

Dynamic Strain Amplifier

> Model DN-AM110

As dynamic strain amplifier, it is designed and manufactured to be suitable for sub rack case.

Application sensor : Torque transducer, Load cell, strain gauge type sensors, mV output type sensors etc.

- Built-in single step filtering function
- Built-in automatic temperature compensating circuit
- Easy to adjust zero and span by volume



ORDERING INFORMATION

DN-AM110 □ - □

1. Voltage : 0~10V
2. Current : 4~20mA

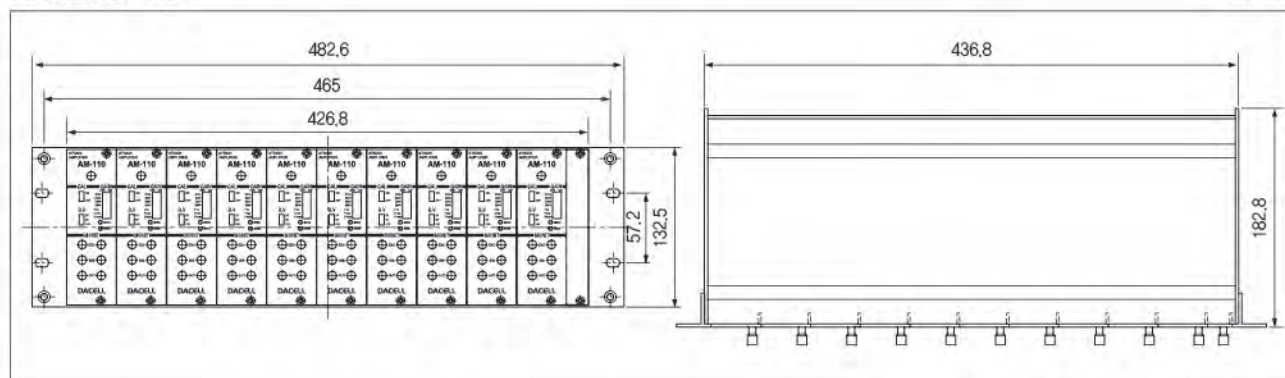
- A : Strain gauge type
- B : Potentiometer voltage input
- C : AC input type

> SPECIFICATIONS

Specifications	Accuracy
Bridge voltage	Constant voltage DC 2V, 5V, 10V
Application Bridge resistance	100Ω ~ 1kΩ
Rated output	Voltage ±10V (Load resistance more than 200Ω) Current 4~20mA (Load resistance less than 300Ω)
Zero adjustment range	10%, 10 rotations
Sensitivity adjustment range	1500 Multiplier
S/N rate	51dB
Answering frequency	DC~20kHz (-3dB)
Low pass filter	10Hz, 100Hz, 1kHz pass
Nonlinearity	±0.02% F.S
Usage temperature range	-10°C to 60°C
Humidity	Less than 80% RH (no dew condensation)
Supply power	AC 220V 50/60Hz (AC 110V available by internal operation)

> DIMENSIONS

unit:mm



◆ Specifications are subject to change without notice.

Dynamic Strain Amplifier



> Model DN-AM150

As dynamic strain amplifier, it is designed and manufactured to be suitable for instrumentation control panel.

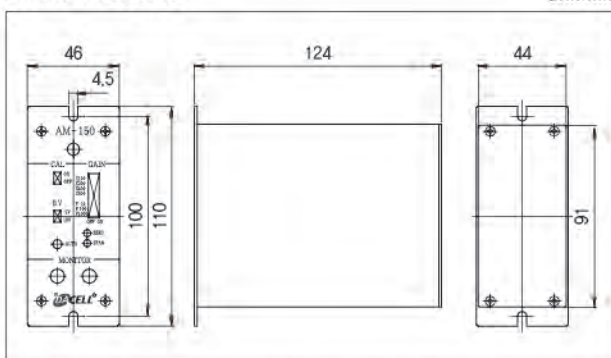
- Built-in single step filtering function
- Built-in automatic temperature compensating circuit
- Easy to adjust zero and span by volume
- One touch auto zero function

> SPECIFICATIONS

Specifications	Accuracy
Bridge voltage	Constant voltage DC 5V, 10V
Application Bridge resistance	100Ω ~ 1kΩ
Rated output	Voltage ±10V (Load resistance more than 200Ω) Current 4~20mA (Load resistance less than 300Ω)
Zero adjustment range	10%, 10 rotations
Sensitivity adjustment range	1500 Multiplier
S/N rate	51dB
Answering frequency	DC~20kHz (-3dB)
Low pass filter	10Hz, 100Hz, 1kHz pass
Nonlinearity	±0.02% F.S
Usage temperature range	-10°C to 60°C
Humidity	Less than 80% RH (no dew condensation)
Supply power	AC 220V 50/60Hz (AC 110V available by internal operation)

> DIMENSIONS

unit:mm



• Specifications are subject to change without notice.



> Model DN-AM210

As dynamic strain amplifier, it uses single or SUB Rack case, and can be used as multi-channel. It is used for strain gauge applied sensors, and strain measurement of potentiometer and mV output sensor and half and full bridge as high-level model.

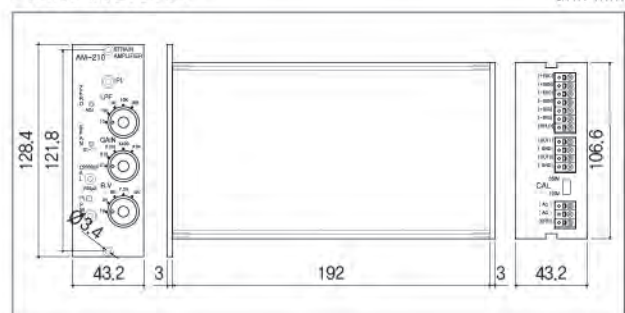
- Built-in automatic temperature compensating circuit
- Easy to adjust zero and span by volume
- Built-in single step adjustment function of Gain and LPF by rotary switch
- Bridge power supply built-out optional switch
- One touch auto zero function
- Built-in self calibration function

> SPECIFICATIONS

Specifications	Accuracy
Bridge voltage	Constant voltage DC 1V, 2V, 5V, 7.5V, 10V
Application Bridge resistance	100Ω ~ 1kΩ
Rated output	Voltage ±10V (Load resistance more than 200Ω) Current 4~20mA (Load resistance less than 300Ω)
Zero adjustment range	10%, 10 rotations
Gain (Max 1000)	Switch : 1, 10, 100, 400, 1000 times / Span : 1~11 times
S/N rate	54dB
Answering frequency	DC~20kHz (-3dB)
Low pass filter	10Hz, 100Hz, 1kHz, 10kHz, WB
Nonlinearity	±0.01% F.S
Usage temperature range	0°C to 60°C
Stability (temp. characteristic)	Sensitivity ±0.03%/°C
Humidity	Less than 80% RH (no dew condensation)
Supply power	AC 220V 50/60Hz (AC 110V available by internal operation)
Correction value	200μS, 2000μS (1000μS/Strain = 0.5mV/V)

> DIMENSIONS

unit:mm



Dynamic Strain Amplifier



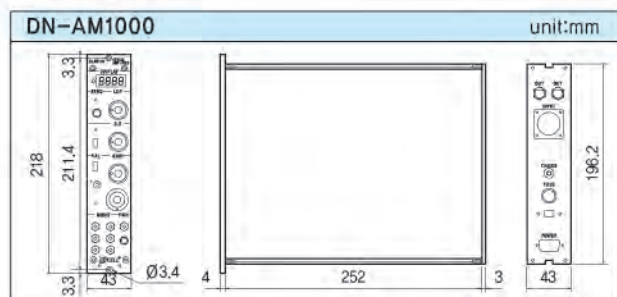
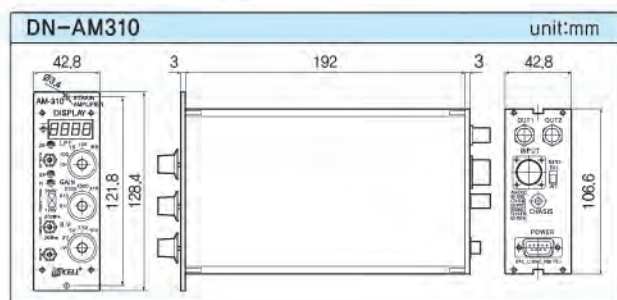
> Model DN-AM310

This amplifier, which microprocessor is integrated in, converts resistance differences to DC voltage and is widely used for the various sensors like a strain gage type load cell.

- Amplifier to convert strain gage signal from load cell to DC voltage
- Multi stage filter construction.
- The circuit compensated temperature automatically
- Zero adjustment by volume.
- Function control by rotary s/w
- Voltage display : 3 1/2 digit

> SPECIFICATIONS

Specifications	Accuracy
Number of measuring point	1Point per each unit
Application Bridge resistance	100Ω ~ 1kΩ
Measuring range	10V~1mV~20mV/V, 5V~2mV~40mV/V, 2.5V~4mV~80mV/V
Bridge voltage(BV/V)	Constant voltage DC 5V, 10V
Zero set range	Adjustment by 10 turns VR(10%)
Output	0~±10VDC (load resistance ≥ 200Ω), 4mA~20mA (load resistance ≥ 300Ω)
Nonlinearity	±0.01% F.S
Sensitivity adjustment	1000 multiplier (Max 1000)
S/N ratio	51dB
Frequency Response	DC20kHz~(3dB), Option:DC100kHz
Low pass Filter	10Hz, 100Hz, 1kHz, 10kHz, pass
Operating temperature	0°C to 60°C
Temperature sensitivity	±0.03% F.S/°C
Calibration	0.5, 1.0, 1.5, 2.0, 2.5 mv/v (0.5mv/v=1000u strain)
Display	Digit
Size (W×H×D)	44.5×128.4×166mm
Power	220V, 50/60Hz



> Model DN-AM1000

The DN-AM1000 Series high precision, as the sensitivity dynamic signal amplifier independence or majority (Multi-channel) it will put in to the 19"rack case and it will be able to use and it is planned. The voltage signal which is output comes to become rate (GAIN) until 1~11000 boats, answer back frequency the maximum 100kHz, the Low Pass Filter is becoming at 10Hz~10kHz..

- Fully adjustable calibrated gain from 1 to 11000
- Accepts all strain gage inputs (foil or piezoresistive), potentiometer, LVDT, etc.
- Bridge excitation from 1 to 10Vdc (5 steps)
- Input impedance above 1GΩ
- Four-frequency low-pass active filter (10 to 10kHz)
- Automatic bridge balance (±4000μe)
- Double shunt calibration (120Ω, 350Ω, 2000μe, 200μe)
- Outputs voltage display (7-Segment 4-digits LED)
- SIZE & WEIGHT
 - Size : 218(H)×43(W)×258(D)mm
 - Weight : Approx. 1,2kg

■ Connector

- Signal input : MS3112E 14-19S, MS3116F 14-19P
- Signal output : BNC connector

> SPECIFICATIONS

Specifications	Accuracy
Excitation	5 steps : 1V, 2V, 5V, 7.5V, 10V • Current : 170mA max. Remote sense error : 0.0005%/Q at load resistance (350Q load) Noise and ripple : 0.05% p-p, max (dc 10kHz) • Stability : ±0.02%/°C
Input	Strain Gauge : quarter, half or full bridge (50 to 1000Q), Built-in 120Q and 350Q dummy resistor Transducer : Piezoresistive strain gauge types, potentiometer, DCDT transducers displacement
Amplifier	1st Gain : ×1, ×10, ×100, ×400, ×1000 5steps (accuracy ±1%) 2nd Gain : ×1 to ×11 continuously variable Vernier multiplier : 10-turn counting knob with direct readout (×1 to ×11) Frequency response : 100kHz (~3dB), max. Input resistance : 1GΩ, differential or common mode Input capacitance : 4pF, differential or common mode Input voltage range : ±10V, differential mode 12V~(G/2×Vd), common mode (Vd=actual differential input voltage) Bias current : ±30nA, typical, each input Common-mode rejection (G=100) : 100dB, min, dc to 60Hz with 1KQ source imbalance Stability (G<1000) : 5ppm/°C, max. • Noise (G=100) : 0.01 to 10Hz, 0.3μVp-p R.T.J
Filter	Characteristic : low-pass active 2-pole butterworth standard Frequencies (~3dB) : 10Hz, 100Hz, 1kHz, 10kHz, wide-band
Amplifier output (BNC connector)	Outputs : ±10V @100mA max. (out1) ; ±10V @10mA max. (out2) Linearity : ±0.01%
Voltage display	Display character : 7-Segment 4-digits LED • Display range : 0.000V~±10.00V
Gain	5 steps Amplifier (×1, ×10, ×100, ×400, ×1000)
Frequency response	100kHz~(3dB), max.
Bridge balance	Auto ranging : ±4000μe (2mV/V) • Auto balance time : 1 second, typical Manual balance range : ±1V • Storage : non-voltage data memory (EEPROM)
Low pass filter	4 steps 10Hz, 100Hz, 1kHz, 10kHz (~3dB)
Linearity	±0.01%
Stability	±0.01%/°C
Shunt calibration	Bridge resistance 120Q : 200μe and 2000μe calibrations Bridge resistance 350Q : 200μe and 2000μe calibrations
Input impedance	more than 1GΩ
Power	AC 110V or 220V (switch selected) 50/60Hz, 7.5watts
3-wire code { 2-wire : power / 1-wire : Ground }	

Specifications are subject to change without notice.

Digital Strain Amplifier

> Model SA-6, SA-16

This amplifier has strain measurement and analog output function and more various functions and easy operation by built-in 5.6" TFT screen. Various signals from sensors are inputted and carry out an operation and indicate them to LCD screen and output analog signal $\pm 10V$.

- Real data value and out voltage can be checked.
- Kind of sensor, sensor spec, deciaml points can be setted by touch screen.
- No need bridge box by Built-in 120 Ω , 350 bridge circuit.
- 19" rack (3U) can be intalled.
- D/A offset and D/A span can be setted.
- 2channels per slot type
- Use both roud type connector or 5p Screw connector



SA-6



SA-16



> SPECIFICATIONS

Specifications	Accuracy	
	SA-6	SA-16
Number of channel	Max. 16 Channels (2, 4, 6)	Max. 16 Channels (8, 10, 12, 14, 16)
Display	5.6" TFT touch LCD	
Measure frequency	10kHz	
Analog Output Hz	10kHz	
Input sensors	1Gage & 2gage : 120 Ω , 350 Ω 4 Gage bridge sensor : 0.5mV/V - 100mV/V Potentiometer type sensor Voltage output type sensor $\pm 10V$	
Strain input range	10,000, 100,000, 1,000,000 $\times 10^6$ Strain	
Low Pass Filter	Selectable 10Hz, 100Hz, 1Khz by program	
EXC Voltage	Selectable 2Volt, 5Volt, 10Volt by Program	
A/D conversion	16bit 10,000 times/sec	
D/A conversion	16bit 10,000 times/sec	
Dimension	255 $\times$ 160 $\times$ 270mm	450 $\times$ 132 $\times$ 280mm, 19" rack 3U size
Power	Free voltage AC85~264V, 50~60Hz	

• Specifications are subject to change without notice.

Dynamic Strain Amplifier



> Model DN-AM120

- Waterproof amplifier: Strain gauge sensor
- Built-in single step filtering function
- Easy to adjust zero and span by volume
- Response frequency characteristic : DC ~ 20kHz
- Protection class: IP66, EN60529

>SPECIFICATIONS

Specifications	Accuracy
Bridge voltage	Constant voltage DC 5V, 10V
Application Bridge resistance	100Ω ~ 1KΩ
Rated output	Voltage 0~10V (Load resistance more than 200Ω) Current 4~20mA (Load resistance less than 300Ω)
Zero adjustment range	10%, 10 Rotation
Sensitivity adjustment range	1500 Multiplier
S/N rate	51dB
Frequency response	DC ~ 20kHz (-3dB)
Low pass filter	10Hz, 100Hz, 1kHz pass
Nonlinearity	±0.02% F.S
Usage temperature range	-10°C to 60°C
Protection class	IP66, EN60529
Supply power	DC 24V



> Model DN-AM130

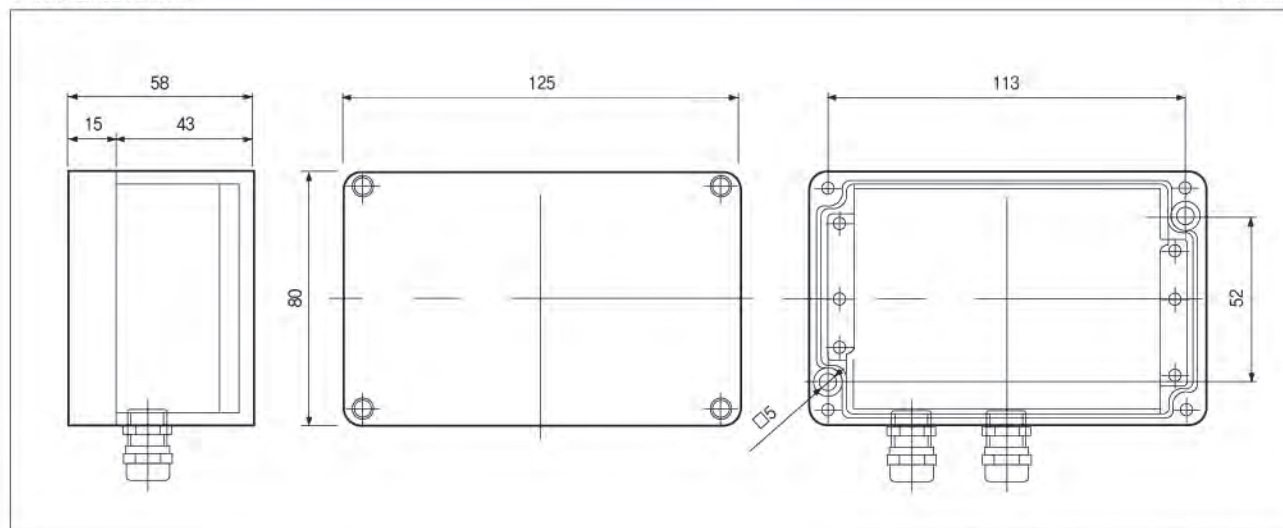
- This product is Dynamic Strain Amplifier of DC voltage control.
- Low price and waterproof type.
- One touch auto zero
- Real weight calibration

>SPECIFICATIONS

Specifications	Accuracy
Bridge voltage	Constant voltage DC 5V
Application Bridge resistance	100Ω ~ 1KΩ
Rated output	Voltage 2~10V (Load resistance more than 200Ω) Current 4~20mA (Load resistance less than 300Ω)
Zero adjustment range	50% F.S
A/D Converter	12 bit, 1kHz
D/A Converter	12 bit, 100Hz
Frequency response	100Hz
Nonlinearity	±0.02% F.S
Usage temperature range	-10°C to 60°C
Protection class	IP66, EN60529
Supply power	DC 24V

>DIMENSIONS

unit:mm



◆ Specifications are subject to change without notice.

AC Type Dynamic Amplifier

> Model DN-ACM200

As AC amplifier, it is designed and manufactured to be suitable for instrumentation control panel.

- Built-in single step filtering function
- Built-in automatic temperature compensating circuit
- Easy to adjust zero and span by volume
- Torque Sensor (Model TRC Only)

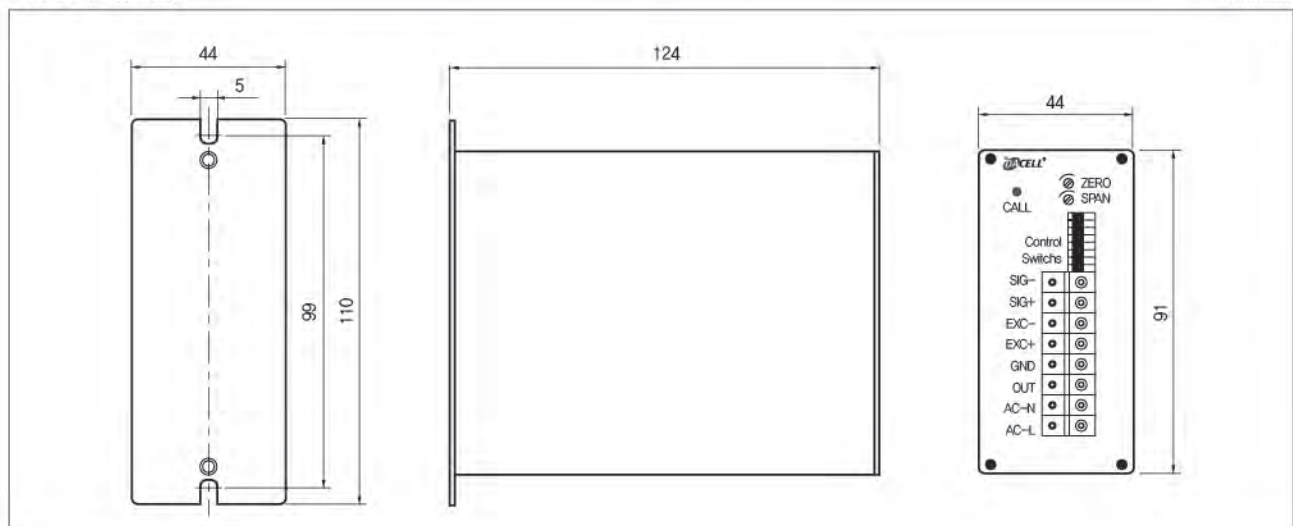


> SPECIFICATIONS

Specifications	Accuracy
Bridge voltage	AC 2Vrms 5kHz/10kHz
Application Bridge resistance	Differential trans torquemeter (AC TYPE, TRC)
Rated output	Voltage $\pm 10V$ (Load resistance more than 200 Ω) Current 4~20mA (Load resistance less than 300 Ω)
Zero adjustment range	10%, 10 rotations
Sensitivity adjustment range	1500 Multiplier
S/N rate	51dB
Answering frequency	500Hz
Low pass filter	10Hz, 100Hz pass
Nonlinearity	0.1% F.S
Usage temperature range	-10°C to 60°C
Humidity	Less than 80% RH (no dew condensation)
Supply power	AC 220V 50/60Hz (AC 110V available by internal operation)

> DIMENSIONS

unit:mm



• Specifications are subject to change without notice.

Linear Potentionmeter

> Model LPM

Compact style, easily handled potentionmeter.
It is a DC output type and it outputs the ratio of input resistance and output voltage through changes of the interior volume resistance.
It could be used for dynamic measurement as well as static measurement.



> SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C.)	10, 25, 50mm / 100mm
Accuracy	±0.2% R.O.
Hysteresis	±0.2% R.O.
Non-repeatability	±0.2% R.O.
Total resistance (±20%)	5kΩ (10~100mm)
Temperature range, compensated	-10°C to 70°C
Temperature range, safe	0°C to 60°C
Excitation Voltage	1~10V DC
Cable	Ø4 shield 5m

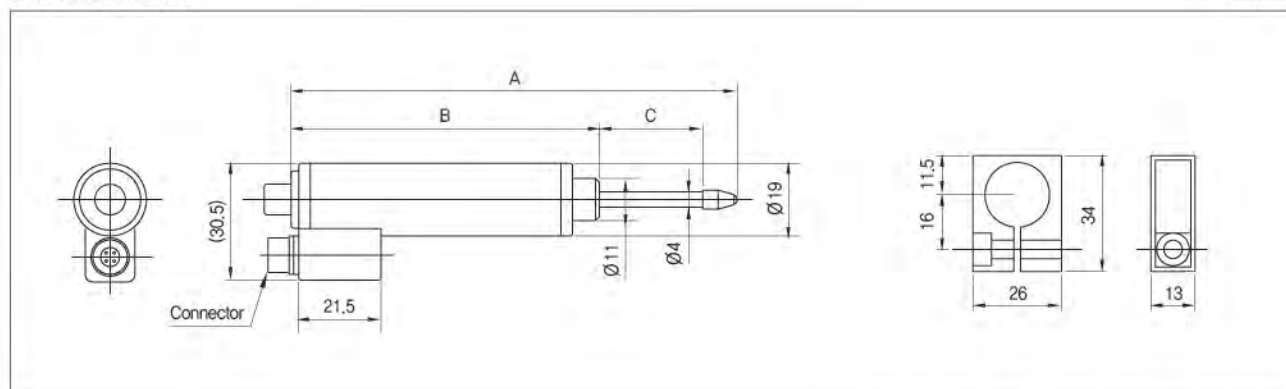
> DIMENSIONS TABLE

unit:mm

Stroke	A	B	C
10mm	86.5	65.5	12
25mm	116.5	80.5	27
50mm	166.5	105.5	52
100mm	269.5	159.5	101

> DIMENSIONS

unit:mm



◆ Specifications are subject to change without notice.

> Model CNH

Measurement of moving distance, position, rotation angle level by using wire.
Widely applied to position control of various facilities and structures.

- It is a resistance output & Voltage output
- Current output 4 to 20 mA signal output (Option)



> SPECIFICATIONS

Specifications	Accuracy
Full stroke ranges	400, 500, 800, 1000, 1500, 2000, 3000 mm
Output signal	voltage divider (Potentiometer)
Accuracy	$\pm 0.25\%$ of R.O.
Repeatability	$\pm 0.25\%$ of R.O.
Creep(30min)	$\pm 0.25\%$ of R.O.
Zero balance	$\pm 0.5\%$ of F.S.
Measuring cable	$\varnothing 0.6$ stainless steel (5,000 mm : $\varnothing 1.0$)
Temperature effect on zero balance	$\pm 0.2\%$ of R.O./ 10°C
Temperature range, safe	0°C to 60°C
Resistance range	$0.5\text{k}\Omega \sim 10\text{k}\Omega$
Insulation resistance bridge	$1000\text{M}\Omega$
Power supply	5V, 10V DC (Max 24V DC)
Safe overload	150% R.C.
Cable length	$\varnothing 5\text{mm}$ 4core, 1m

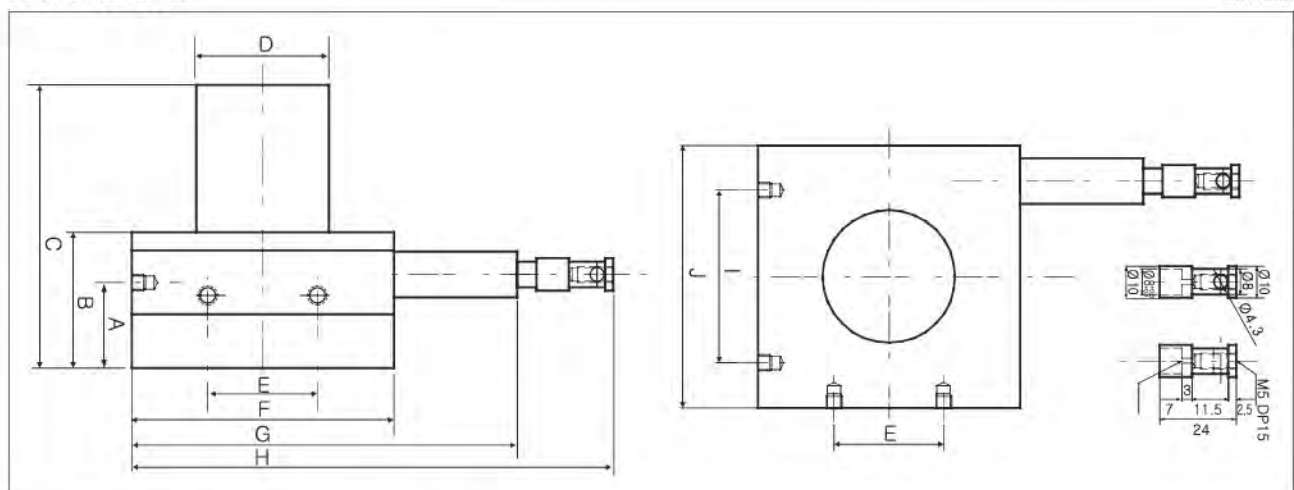
> DIMENSIONS TABLE

unit:mm

Model	A	B	C	D	E	F	G	H	I	J
400 mm	22	40	85	42	16	49	69	99	28	49
500, 800, 1000mm	22	40	85	42	16	49	69	99	28	49
1500 mm	22	40	85	42	22	63	83	113	40	63
2000 mm	22	40	85	42	22	80	100	130	54	80
3000 mm	22	40	104	58	22	80	100	130	54	80

> DIMENSIONS

unit:mm



• Specifications are subject to change without notice.

Digital Indicator

> Model DN-20W

Pressure Transducer, Linear potentiometer, etc. The setup sequence is simple and quick using four push buttons only.



> SPECIFICATIONS

Specifications	Accuracy
Application sensor	Pressure sensor, Linear Potentiometer (LPS, LPM, CNH, CTP)
Sensor authorized voltage	DC 10V, 24V (Dip switch)
Zero adjustment range	100% F.S (Auto Zero)
Input signal	DC 0 ~ 10V or 4 ~ 20mA (Dip switch)
Display	-19999 ~ +99999
Character height	7 segment LED 5 Digit (14mm)
AD converter	24bit 200 times/sec
DA converter	16 bit
Temperature Characteristic	±10ppm/°C
Analog output	DC 0 ~ ±10V or 4~20mA (Selective use)
Relay output	Contact capacity : 250VAC/3VDC 3A Relay life time : Over 10 ⁷ , Over 10 ⁵ under the rated load)
Usage temperature range	-10°C ~ 60°C
Humidity	Less than 80% RH (no dewing.)
Power source used	AC 90 ~ 240V 50/60Hz 8VA
Sizes	96×48×128mm
Panel cutting size	91.5×44.5mm
Weight	About 500g

■ Feature

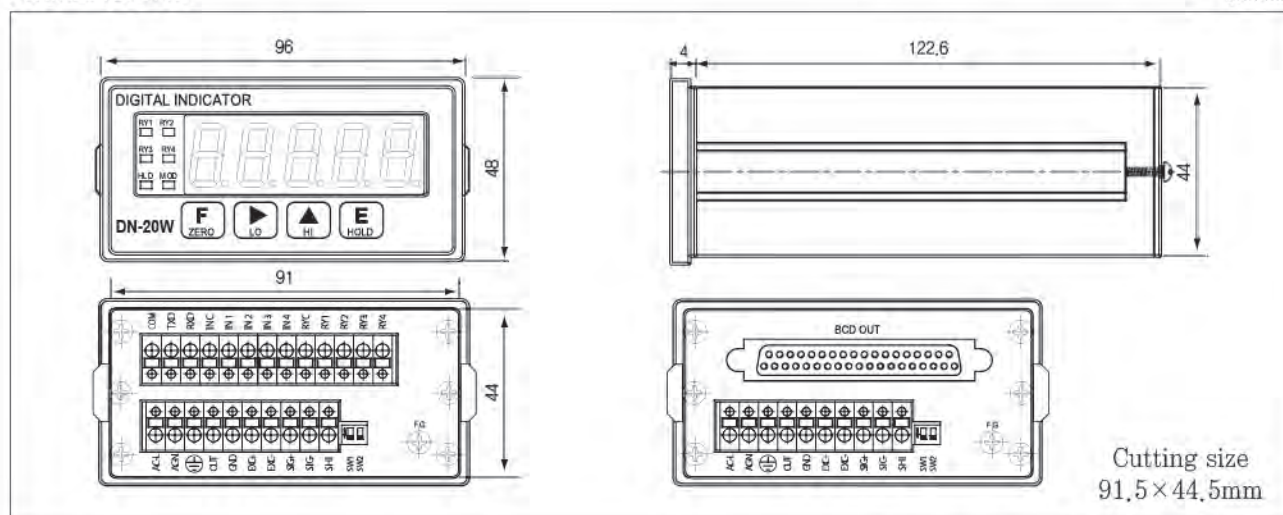
- High resolving power (24bit A/D)
- High precision (more than 0.01% F.S) and stability
- Quick sampling speed (200times/sec)
- 4 Relay output
- Watch dog
- Calibration of actual load and sensor output value
- Peak hold and Sample hold
- One touch auto zero (Display & Analog output zero)
- Modbus RTU Protocol
- Upper and lower limit comparison output
- NG, OK decision function

■ Option

- OP-01 : BCD parallel output
- OP-02 : RS-232C (Basic Installation)
- OP-03 : RS 485 Interface
- OP-10 : Power 24 VDC 0.3A
- OP-12 : Sensor Input : ±15V
- OP-12 : Input Signal : ±10V

> DIMENSIONS

unit:mm



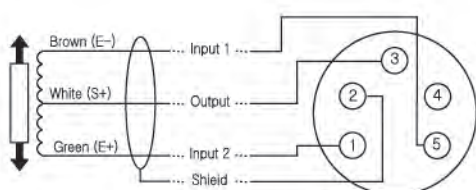
Specifications are subject to change without notice.

> Model DP-S4, DP-10, DP-25

Various measuring range : $\pm 2\text{mm}$ to $\pm 12.5\text{mm}$

Excellent resistance to workshop conditions

High resolution & linearity



< Connection Details >

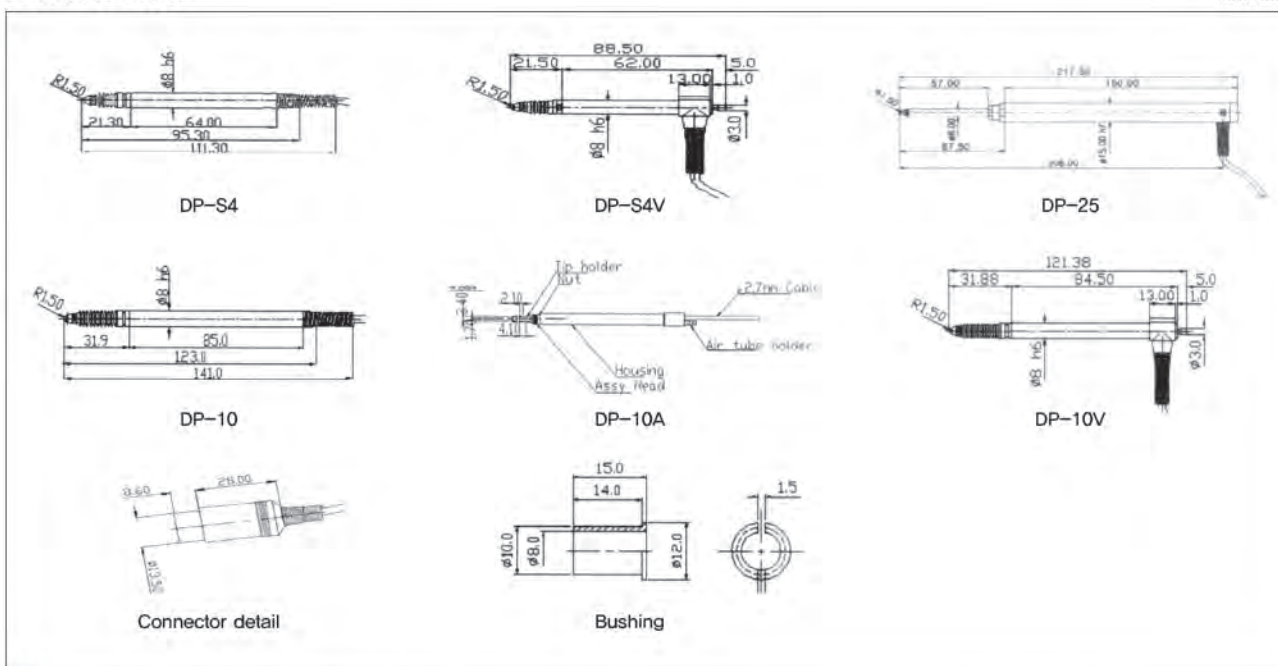


> SPECIFICATIONS

Specifications	DP-S4	DP-S4V	DP-10	DP-10V	DP-25
Plunger retraction	Spring push	Vacuum lift	Spring push	Vacuum lift	Standard
Stroke range	4.95mm		10.45mm		26mm
Measuring range	±2mm		±4mm		±12.5mm
Repeatability	0.1μm		5μm		10μm
Nonlinearity	0.1% (at the ±1.0mm)		0.1% (at the ±3.0mm)		0.3% (at the ±8mm)
Measuring Force	4~90g		30~80g		180g
Cable length	2.2m		3m		
External diameter	Ø8mm				Ø15mm
Mass(except cable unit)	Approx. 17g	Approx. 22g	Approx. 20g	Approx. 26g	Approx. 145g
Operating temp	0℃ to 40℃				

> DIMENSIONS

unit:mm



Specifications are subject to change without notice.

LVDT Indicator

> Model DN-25W

The DN25W shows signal of differential transducer displacement sensor (LVDT) into digital display and analogue output as indicator, and intermediate or high sampling (200 times/sec) and comparison output are available.



> SPECIFICATIONS

Specifications	Accuracy
Application sensor	linear variable differential transformer (HBT : half type, DP series)
Sensor authorized voltage	2Vrms / 5 kHz
Zero adjustment range	100% F.S (Auto Zero)
Input signal	AC 0 ~ 2mV/V
Display	-19999 ~ +99999
Character height	7 segment LED 5 Digit (14mm)
AD converter	24bit 200 times/sec
DA converter	16 bit 200 times/sec
Temperature Characteristic	±10ppm/°C
Analog output	DC 0 ~ ±10V or 4~20mA (Selective use)
Relay output	Contact capacity : 250VAC/3VDC 3A Relay life time : Over 10 ⁷ , Over 10 ⁵ under the rated load)
Usage temperature range	-10°C ~ 60°C
Humidity	Less than 80% RH (no dewing.)
Power source used	AC 90 ~ 240V 50/60Hz 8VA
Sizes	96×48×128mm
Panel cutting size	91,5×44,5mm
Weight	About 500g

■ Feature

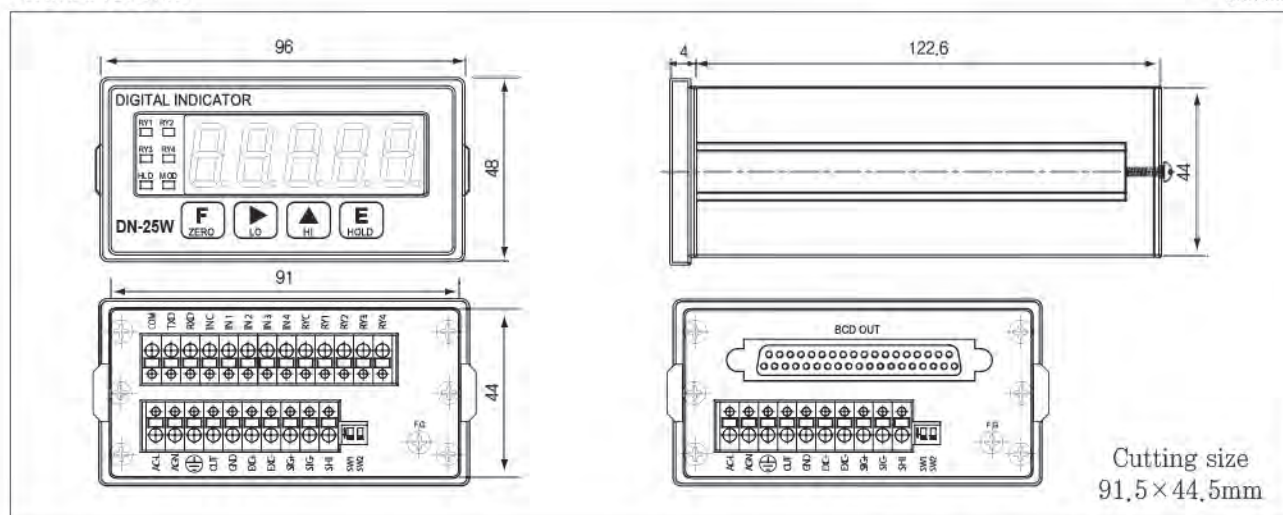
- Best for measuring transformer type displacement sensor (LVDT, DP Series)
- Rapid sampling speed (200 times/sec.)
- High resolving power (24bit A/D)
- High accuracy (over 0.02% F.S) and stability
- One touch auto zero (Display & Analog output zero, DAC)
- Watch dog
- Peak hold and Sample hold
- Upper and lower limit comparison output
- NG, OK decision function
- 4 Relay (HH, HI, LO, LL) out
- Standard Analog output
- Modbus RTU Protocol

■ Option

- OP-01 : BCD parallel output
- OP-02 : RS232C serial interface (Basic Installation)
- OP-03 : RS485 Multi drop interface
- OP-10 : Power 24 VDC 0.3A
- OP-11 : Applied sensor LVDT

> DIMENSIONS

unit:mm



Specifications are subject to change without notice.

Electronic Micrometer



> Model ML-SP

1ch color TFT LCD type LVDT indicator,
User convenience enlargement by touch pad application
Various histogram offer,
high resolution
high reliability
RS232C, I/O interface
※ Option : SD memory



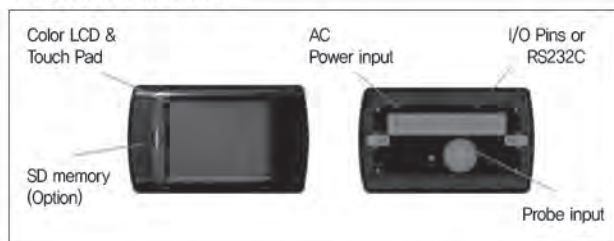
> Model ML-CP-S1~S4

4ch color TFT LCD type LVDT indicator,
User convenience enlargement by touch pad application
Various Measurement mode and histogram offer (+, -, average, max-min etc)
high resolution/ high reliability
RS232C, I/O interface

>SPECIFICATIONS

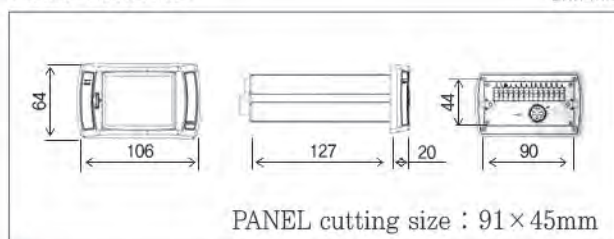
Specifications	Accuracy
Display	2.8" TFT color LCD with touch panel
Resolution	1/1000mm or 1/100mm
Direction	Selectable
Input channels	1ch
Dimension (W×H×D)	106×64×147mm / 4.17"×2.52"×5.79"
Data Communication	RS232C / RS485
Input / Output	11 pins I/O interface (2 inputs, 4 outputs of relay contact)
Power Input	AC100~220V 50Hz/60Hz
Power Consumption	4W
Operating temperature	0°C to 40°C / 32°F to 104°F
Storage temperature	-10°C to 50°C / 14°F to 122°F
Probe	DP-S4 series / DP-10 series / DP-25, ACT series / LVDT / Analog sensors

>COMPOSITIONS



>DIMENSIONS

unit:mm

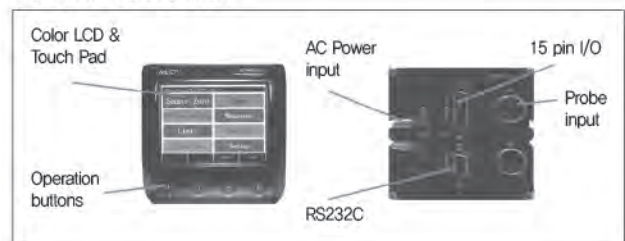


◆ Specifications are subject to change without notice.

>SPECIFICATIONS

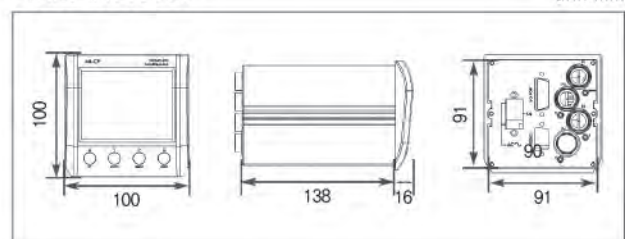
Specifications	DN-CP-S1	DN-CP-S2	DN-CP-S3	DN-CP-S4
Display	3.5" TFT color LCD with touch panel			
Resolution	1/1000mm or 1/100mm (Option 1/10000mm)			
Direction	Selectable			
Input channels	1ch	2ch	3ch	4ch
Calculation Functions	none	+, -, average, max-min		
Dimension (W×H×D)	100×100×160mm / 3.94"×3.94"×6.3"			
Data Communication	RS232C / RS485			
Input / Output	15 pin I/O interface (6 inputs, 5outputs of relay contact)			
Power Input	AC100~220V 50Hz/60Hz			
Power Consumption	4.6W			
Operating temperature	0℃ to 40℃ / 32℉ to 104℉			
Storage temperature	-10℃ to 50℃ / 14℉ to 122℉			
Probe	DP-S4 series / DP-10 series DP-25, ACT series / LVDT / Analog sensors			

>COMPOSITIONS



>DIMENSIONS

unit:mm



AC Type Dynamic Amplifier

> Model DN-AMP100

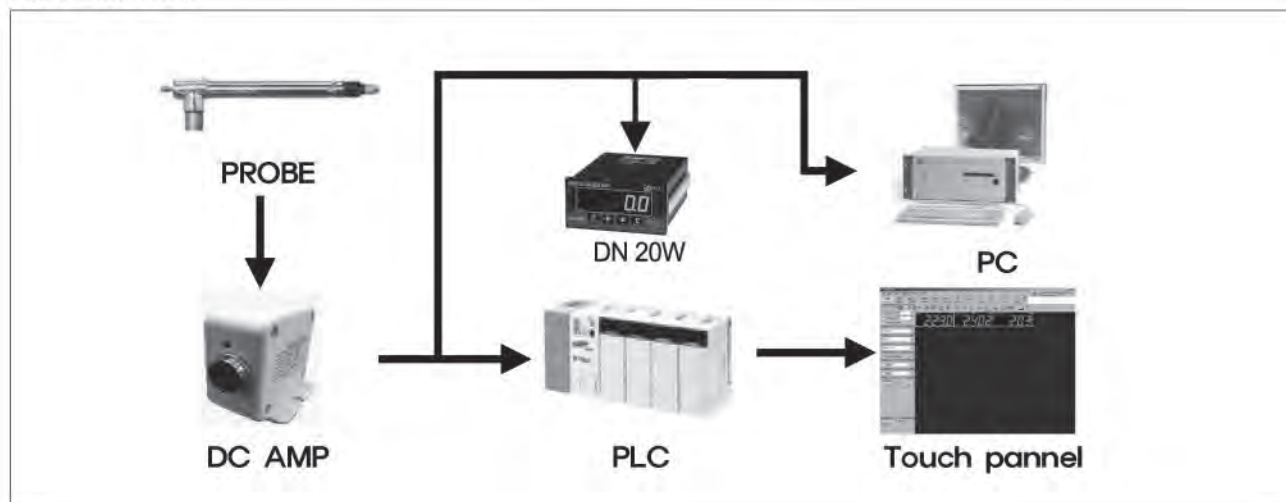
- AC Amplifier
- DP Series HBT sensor only
- Voltage 0 ~ 5V output
- Compact and low price
- Response frequency 3 kHz



> SPECIFICATIONS

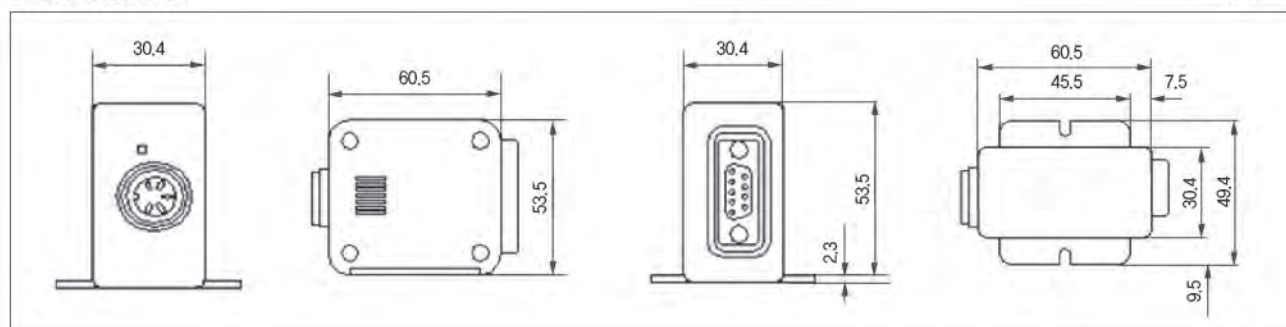
Specifications	Accuracy		
	AMP100-A1	AMP100-B1	AMP-B3
Input	DC $\pm 15V$	DC24V	DC24V
Output	DC 0~5V	DC 0~5V	4~20mA
Sensor authorized voltage	AC 2V rms 5KHz/10KHz		
Input terminal	DIN 5pin		
Output terminal	D-SUB 9pin		

> APPLICATION



> DIMENSIONS

unit:mm



Specifications are subject to change without notice.

Wireless Load Cell Data logger

> Model DL-W100

- The DL-W100 measures and monitors loads with Bluetooth or Zigbee-based wireless.
- Connect to all load cells and output the data wirelessly
- Communication method : Bluetooth, ZigBee
- Support for mobile phone and tablet programs
- PC Program Support (Basic) :
Ordering program requested separately



> SPECIFICATIONS

Specifications	Accuracy
Number of channels	1ch or more
Measure Hz	5Hz
Zigbee standard	ZigBee 2006
Frequency band	2.46Hz
Transmission Output	6.0dBm (Typical)
Communication distance	Max. 120m
Program	Multiscan 4W S/W, Android OS App Offerings
Power	DC 5V
Battery	4.2V charged battery
Sizes	100×60×30mm



ZigBee communications – 4 ch and PC program

> Model DL-H20-W

- Lightweight and easy to carry.
- Real-time data measurement and storage via Bluetooth connection with DL-W100.
- Support for equal interval storage and step interval storage.
- Real-time load FACTOR applicable.



★ Specifications are subject to change without notice.

Portable Type Data Logger

Dynamic Data Logger

> Model DL-H20

This data logger is portable and handy type strain measurement system. And 3.2" TFT touch screen, 4GB save memory, Lithium ion battery, USB charging and communication are built-in for multi fuction.



■ Feature

- 1 channels static & dynamic data logger.
- Multi functions with touch screen and built-in data memory
- Built-in 120Ω, 350Ω bridge circuit
- Remove noise by low pass filter.
- Auto zero by auto zero button
- Use both Tajimi and 5p Screw connector
- Provide Multiscan S/W

> SPECIFICATIONS

Specifications	Accuracy
Display	3.2" TFT touch LCD
Internal battery	Lithium-ion 3.7V, 1800mAh
Input sensors	1Gage & 2gage : 120Ω, 350Ω 4 Gage bridge sensor : 0.5mV/V - 100mV/V Potentiometer type sensor Pt100 RTD
Internal data memory	4GByte data memory
Strain input range	±30,000 [uStrain]
A/D conversion	24 bit
A/D conversion speed	50 times/sec
Data save	4,000 point save
Interface	USB
Program	Multiscan S/W & Multiload S/W
Demension (W×H×D)	98×200×32 mm

> Model DL-350

DL-350 is 16 channels dynamic strain measurement equipment which connect with PC and display graph and record data. The data can be transmitted to PC easy through the front side USB port.



■ Feature

- Max, 16 channel dynamic data logger.
- Real-time measurement by USB port
- 4 channels per slot type
- 1kHz frequency measurement by each channel
- Built-in 120Ω, 350Ω bridge circuit
- Remove noise by low pass filter.
- 16bit, 200kHz high efficient A/D converter
- Selectable both Tajimi or 5p Screw connector
- Provide Multiscan S/W

> SPECIFICATIONS

Specifications	Accuracy
Number of channel	Max, 16 Channels (4, 8, 12)
Measure frequency	1,000Hz
Connector for sensor	Selectable 5p screw connector or Tajimi
Input sensors	1Gage & 2gage : 120Ω, 350Ω 4 Gage bridge sensor : 0.5mV/V - 100mV/V Potentiometer type sensor Pt100 RTD, Thermocouple (J, K, T, E, R, S) Voltage output type sensor ±10V
Strain input range	Gain 1000 : ±10,000 [uStrain] Gain 100 : ±100,000 [uStrain] Gain 10 : ±1,000,000 [uStrain]
Low Pass Filter	Selectable 10Hz, 100Hz, 1Khz by program
Interface	USB
Program	Multiscan S/W & Multiload S/W
Demension (W×H×D)	260×190×270 mm
Power	Free voltage AC85 ~ 264V, 50 ~ 60Hz

◆ Specifications are subject to change without notice.

Touch Type Data Logger

Touch Type Data Loggers are 4~32 channels dynamic & static strain measurement equipment which can monitor result and record data without PC by built-in touch screen and SD memory card. This data logger can be measured for static without PC because of has built-in SD memory and touch screen. The data can be transmitted to PC easy through the front side USB port.

> Model DL-152



■ Feature

- 4~6 channels static & dynamic data logger.
- Multi functions with touch screen and built-in data memory
- Built-in 120Ω, 350Ω bridge circuit
- Remove noise by low pass filter.
- Auto zero by auto zero button
- 1gage 3wire type, 2gage, 4gage bridge can be connected.
- Use both Tajimi and 5p Screw connector
- Small size, light weight and USB interface
- Provide Multiscan S/W

> SPECIFICATIONS

Specifications	Accuracy
Number of channel	4, 6 Channels
Measure frequency	1,000Hz
Display & Data memory	5.6" TFT touch LCD 4G SD DATA memory, USB memory stick port (EXT)
Input sensors	1Gage & 2gage : 120Ω, 350Ω 4 Gage bridge sensor : 0.5mV/V ~ 100mV/V Potentiometer type sensor Pt100 RTD Voltage output type sensor ±10V
Strain input range	Gain 1000 : ±10,000 [uStrain] Gain 100 : ±100,000 [uStrain] Gain 10 : ±1,000,000 [uStrain]
Low Pass Filter	Selectable 10Hz, 100Hz, 1KHz by program
EXC Voltage	Selectable 2Volt , 5Volt , 10Volt by Program
Interface	USB
Program	Multiscan S/W & Multiload S/W
Demension (W×H×D)	140×190×270 mm
Power	Free voltage AC85 ~ 264V, 50 ~ 60Hz

◆ Specifications are subject to change without notice.

> Model DL-610



■ Feature

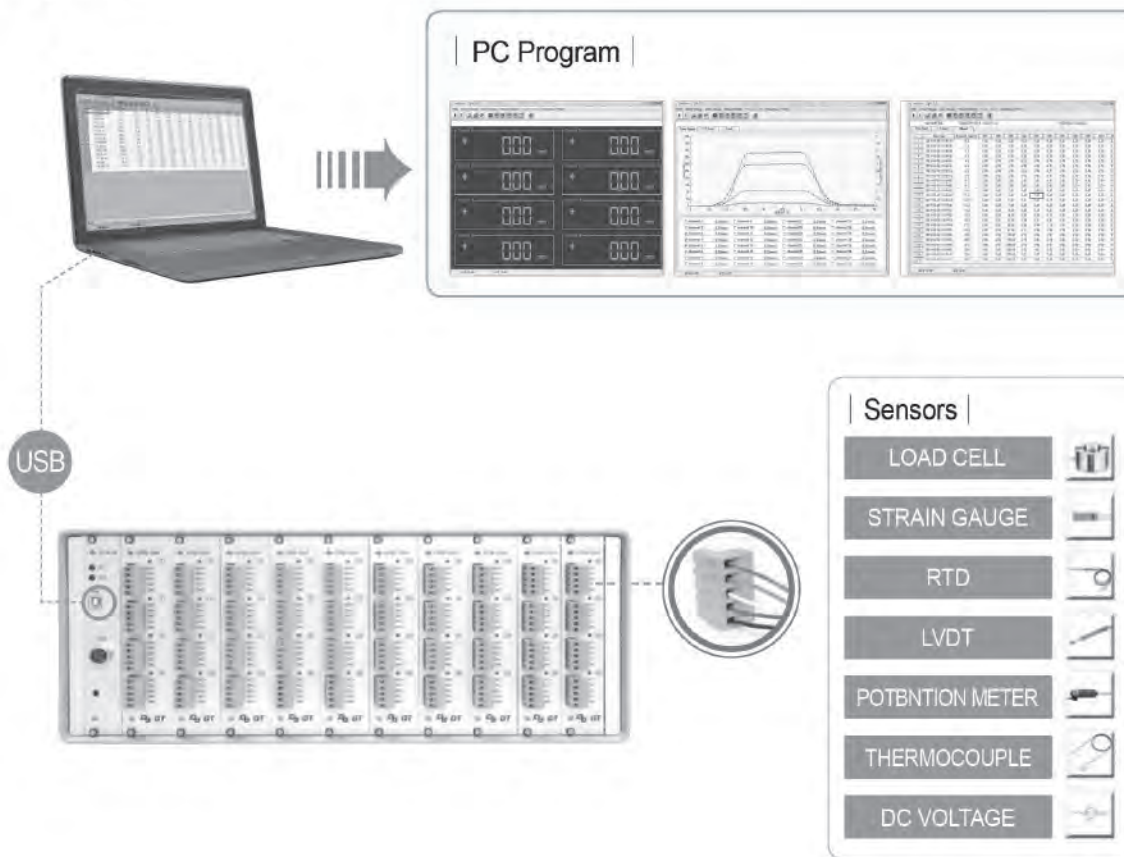
- Max, 32 channels static & dynamic multi functions data logger.
- 9" large touch screen and built-in 16G SD memory
- 4 chs per slot type
- Remove noise by low pass filter.
- Auto zero by auto zero button
- Selectable both Tajimi or 5p Screw connector
- Real-time measurement by Multiscan S/W through USB port

> SPECIFICATIONS

Specifications	Accuracy
Number of channel	Max. 32 Channels (4, 8, 12, 16, 20, 24, 28)
Measure frequency	1,000Hz
Display & Data memory	9" TFT touch LCD 16G SD DATA memory, USB memory stick port (EXT)
Connector for sensor	Selectable 5p screw connector or Tajimi
Input sensors	1 Gage & 2 Gage : 120Ω, 350Ω 4 Gage bridge sensor : 0.5mV/V ~ 100mV/V Potentiometer type sensor Pt100 RTD, Thermocouple (J, K, T, E, R, S) Voltage output type sensor ±10V
Strain input range	Gain 1000 : ±10,000 [uStrain] Gain 100 : ±100,000 [uStrain] Gain 10 : ±1,000,000 [uStrain]
Low Pass Filter	Selectable 10Hz, 100Hz, 1KHz by program
EXC Voltage	Selectable 2Volt , 5Volt , 10Volt by Program
Interface	USB
Program	Multiscan S/W & Multiload S/W
Demension (W×H×D)	450×180×310 mm
Power	Free voltage AC85 ~ 264V, 50 ~ 60Hz

Data Logger Layout / Software

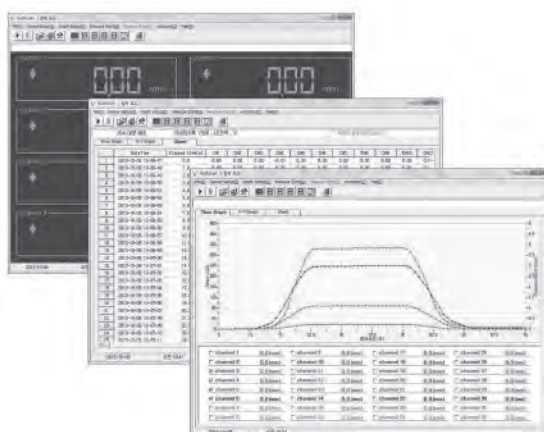
> Layout



> Software (Multiscan & Multiload Program)

Multiscan program is dedicated software to connect PC and data logger with USB communication. Multiload program is data analysis software. Real-time measurement is possible with only USB cable connection without additional device.

> Static mode measurement



> Sensor setting

The screenshot shows the Multiload software interface. It displays a table of sensor settings. The table includes columns for Channel, Sensor type, Sensor name, Unit, Range, Capacity, A/D bits, G, Gain, and A/D. The table is populated with data for various sensors.

Channel	Sensor type	Sensor name	Unit	Range	Capacity	A/D bits	G	Gain	A/D
01	Channel 1	RTD	Temperature	0.000	100.000	16	1.000	1.000	1.000
02	Channel 2	RTD	Temperature	0.000	100.000	16	1.000	1.000	1.000
03	Channel 3	RTD	Temperature	0.000	100.000	16	1.000	1.000	1.000
04	Channel 4	RTD	Temperature	0.000	100.000	16	1.000	1.000	1.000
05	Channel 5	RTD	Temperature	0.000	100.000	16	1.000	1.000	1.000
06	Channel 6	RTD	Temperature	0.000	100.000	16	1.000	1.000	1.000
07	Channel 7	RTD	Temperature	0.000	100.000	16	1.000	1.000	1.000
08	Channel 8	RTD	Temperature	0.000	100.000	16	1.000	1.000	1.000
09	Channel 9	RTD	Temperature	0.000	100.000	16	1.000	1.000	1.000
10	Channel 10	RTD	Temperature	0.000	100.000	16	1.000	1.000	1.000
11	Channel 11	RTD	Temperature	0.000	100.000	16	1.000	1.000	1.000
12	Channel 12	RTD	Temperature	0.000	100.000	16	1.000	1.000	1.000
13	Channel 13	RTD	Temperature	0.000	100.000	16	1.000	1.000	1.000
14	Channel 14	RTD	Temperature	0.000	100.000	16	1.000	1.000	1.000
15	Channel 15	RTD	Temperature	0.000	100.000	16	1.000	1.000	1.000
16	Channel 16	RTD	Temperature	0.000	100.000	16	1.000	1.000	1.000

Digital Pressurization Gauge

> Model CMT

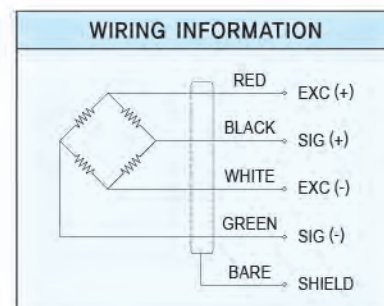
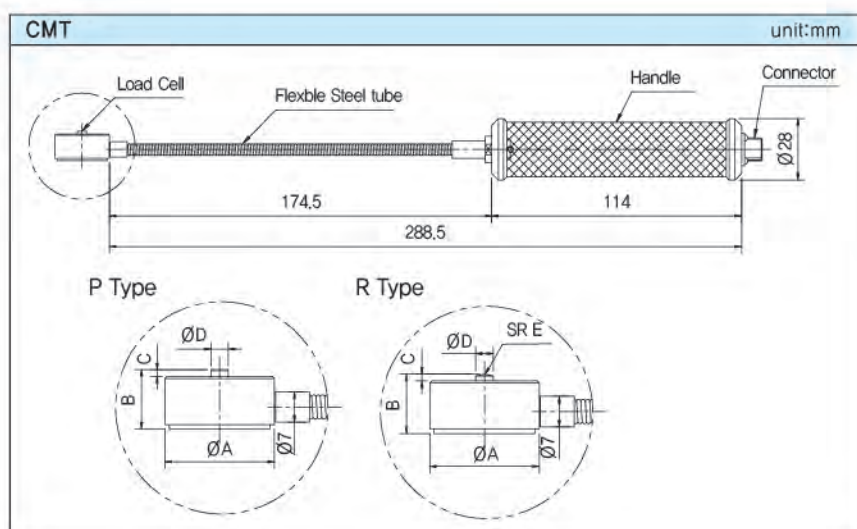
Portable calibrator

To measure electrode force precisely with ease

This compact unit measures electrode force, one of three major factors on welding, accurately and easily.

■ Function

- Peak hold Function
- Auto zero
- Relay output (HI, LOW)
- Automatic power off



> SENSOR (CMT)

Model	CMT-500P/R	CMT-100P/R	CMT-20P/R
Measuring Range	0-4900N (0-500kgf)	0-980N (0-100kgf)	0-196N (0-20kgf)
Critical Load	7350N (750kgf)	1470N (150kgf)	294N (30kgf)
Sensing Error	≤ ±2% (of full scale)	≤ ±2% (of full scale)	≤ ±2% (of full scale)

> Model PDN20

> APPLICATION



◆ Specifications are subject to change without notice.

> MAIN BODY (Indicator)

Model	Accuracy
Power Source	Rechargeable battery
Display (LCD)	5 digit, UNIT CONVERSION(kgf, N, lbf)
Zeroing Adjustment Automatic	regulation by auto-zero-switching
Hold Function	Peak-holding
Output	RS232C(USB output)

> DIMENSIONS TABLE

unit:mm

Model	ØA	B	C	ØD	E(R Mole)
CMT-20 P/R (0~20 kgf)	20	11	1.5	4	4
CMT-100 P/R (0~100 kgf)	25	12	1.5	4	6
CMT-500 P/R (0~500 kgf)	25	13.5	1.5	4	6

Force Gauge

> Model DN-FGA

The DN-FGA has its own characters, with facility, high resolution, which can be used for simple measurement of tension/compression force, switch test, connector insertion/withdraw test, fracture test and push pull testing equipment in a new generation.

■ EASY OPERATION

Buttons are well arranged for easy operation to perform multipurpose measurement.

■ PEAK HOLD FUNCTION

±NG,OK judgments with LED display(with open collector output)

connectable to computer through USB output cable (standard accessory)

Display reverse function,

■ UNIT CONVERSION

N, kgf, lbf, ozf

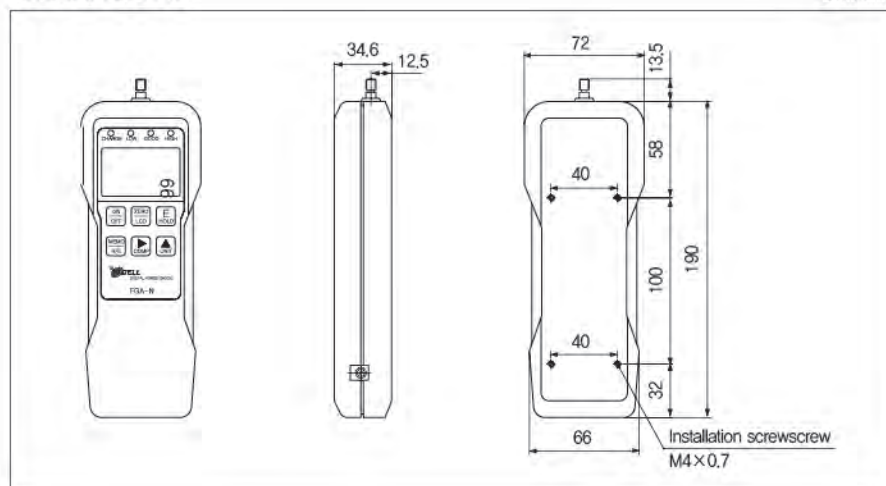
Ergonomic, heavy-duty metal construction

Full set of accessories, AC charger/adaptor and carrying case



> DIMENSIONS

unit:mm



> MANUAL TEST STAND



> SPECIFICATIONS

(UNIT : kg)

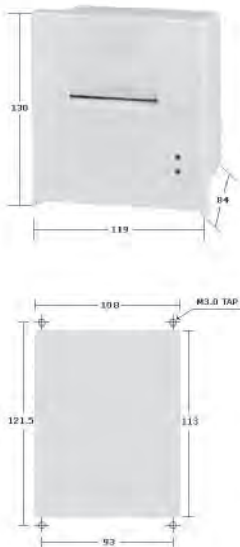
Model	FGA-K2	FGA-K5	FGA-K20	FGA-K50	FGA-K100
Capacity	2,000kg	5,000kg	20,00kg	50,00kg	100,0kg
Min load	0,001kg	0,001kg	0,01kg	0,01kg	0,05kg
Sensor conformation	Sensor Inside				
Measuring accuracy	±0.2% F.S				

◆ Specifications are subject to change without notice.

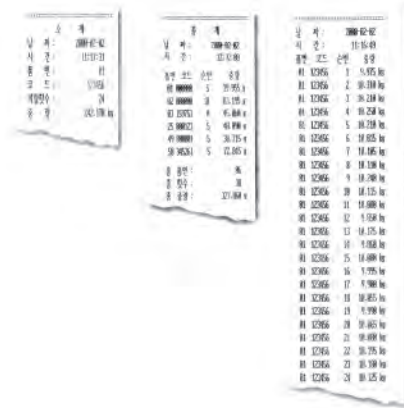
> Mini Printer

Industrial weighing Applications.
Panel mount Type, compact/simple design, High and Clear printing.

> YJ350T(Thermal printer)

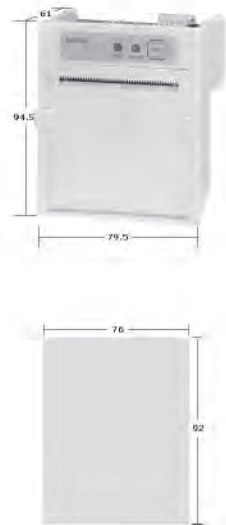


> Print Sample (YJ350)

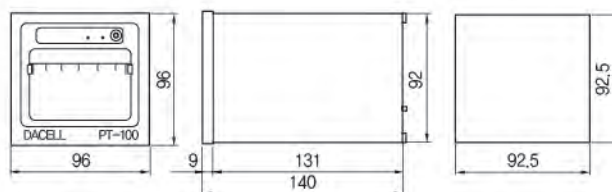


> YJ320T

Thermal printer
- Time, date printout (Option)



> Model PT100



Cutting size unit:mm

> Print Sample (PT100)



> SPECIFICATIONS

Model	YJ350T	YJ320T	PT100
Print System	Thermal type	Thermal type	Thermal type
Print Speed	60mm/sec	60mm/sec	50mm/sec
Character	24 / 32 / 36 / 42 Columns	24 / 32 / 36 / 42 Columns	40 Columns
Ribbon Color			
Paper	Thermal Roll Paper 57(W)×50(dia)	Thermal Roll Paper 57(W)×50(dia)	Thermal Roll Paper 57mm
Interface	RS-232C Serial / Parallel		RS232C (300bps ~ 12kbps)
Conditions	① Temperature : ±5℃ ~ 35℃ ② 10% ~ 60% RH		
Dimension (H×D×W)	119×84×130 mm	79.5×61×94.5 mm	0.05 kg
Sensor conformation	+12/24 VDC1.5A (External Adapter Option)	+12/24 VDC 1.5A or 5 VDC 2.5A(Optional)	AC 85 ~ 265V 50/60Hz

◆ Specifications are subject to change without notice.

Summing Box

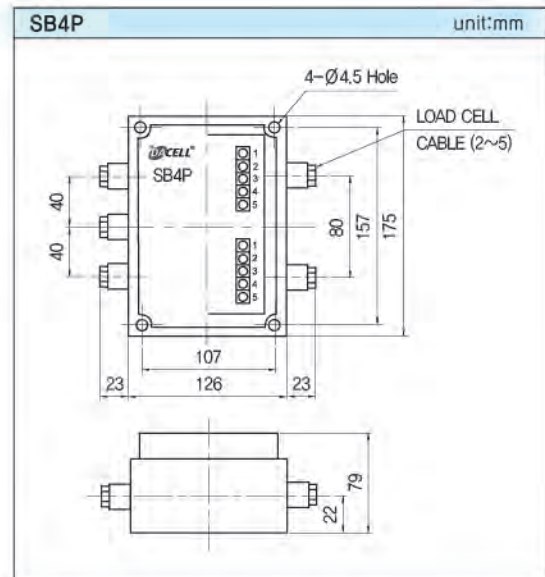
Summing Box

> Model SB4P

Load cell 2 to 4 single cell
 Trimming - Individual cell,
 excitation trim 0~20 ohms
 Potentiometers - 20 ohms,
 20-turn cerment 100ppm
 Cable Fitting - input $\varnothing 5 \sim \varnothing 8$
 output $\varnothing 5 \sim \varnothing 10$
 Enclosure - ABS(Acrylnitrile Butadiene Styrene) cast, IP67



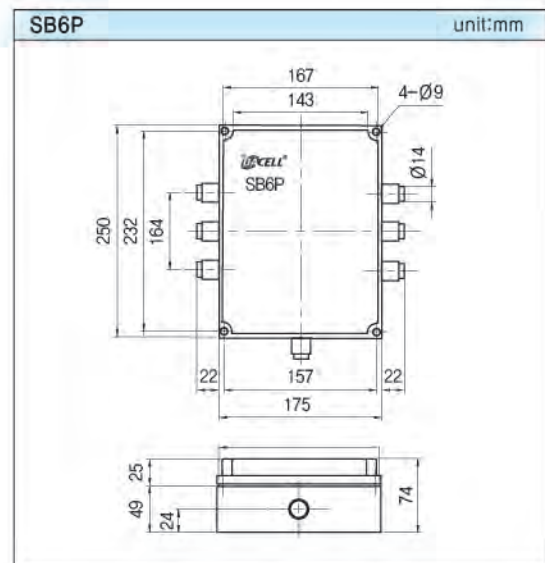
> DIMENSIONS



Summing Box

> Model SB6P

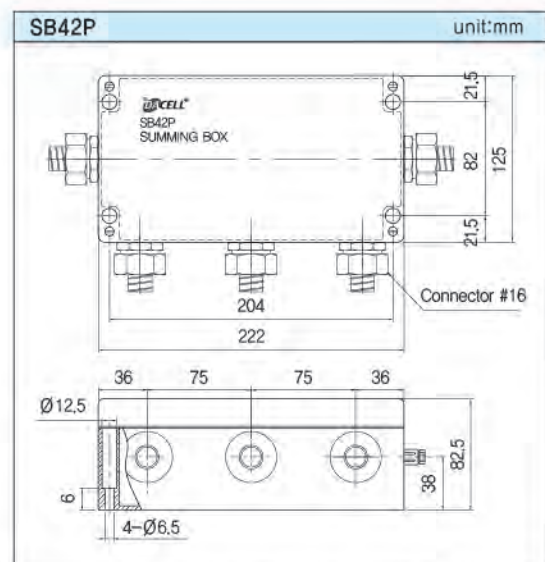
Load cell 2 to 6 single cell
 Trimming - Individual cell,
 excitation trim 0~20 ohms
 Potentiometers - 20 ohms,
 20-turn cerment 100ppm
 Cable Fitting - input $\varnothing 5 \sim \varnothing 10$
 output $\varnothing 5, \varnothing 9 \sim \varnothing 12$
 Enclosure - ABS(Acrylnitrile Butadiene Styrene) cast, IP67



Summing Box

> Model SB42P, SB62P

- 42P : 4 loadcells
 - 62P : 6 loadcells
 Loadcell 2 to 4 single cells
 Trimming - Individual cell,
 excitation trim 0~20 ohms
 Potentiometers - 20 ohms,
 20-turn cerment 100ppm
 Cable Fittings - $\varnothing 5 \sim \varnothing 10$
 Enclosure - Aluminium die-cast, IP67



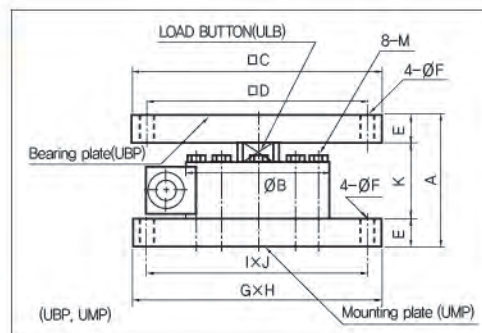
Specifications are subject to change without notice.

BEARING & MOUNTING PLATE

>LOW PROFILE TYPE(UL)

unit:mm

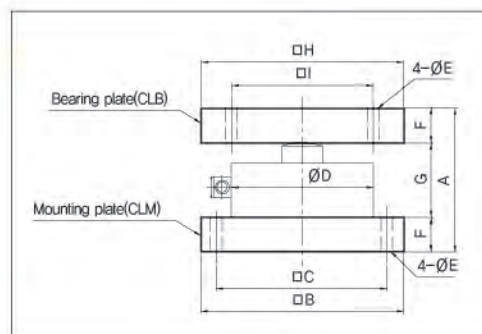
Model	Load Cell Cap	A	B	C	D	E	F	G	H	I	J	M	K
UBP-5 UMP-5	UL-500K	67	88	100	80	15	9	100	100	80	80	6-M6	37
UBP-1 UMP-1	UL-1T~5T	112	118	130	105	23	12	210	130	185	105	8-M8	66
UBP-2 UMP-2	UL-10T	155	180	200	150	30	14	210	200	160	160	8-M12	95
	UL-20T	165	180	200	150	30	14	210	200	160	160	8-M12	105
UBP-3 UMP-3	UL-50T	265	226	260	200	60	23	260	260	200	200	12-M16	145
UBP-4 UMP-4	UL-100T	315	306	360	280	60	27	360	360	280	280	16-M20	195



>LOW PROFILE TYPE(CL)

unit:mm

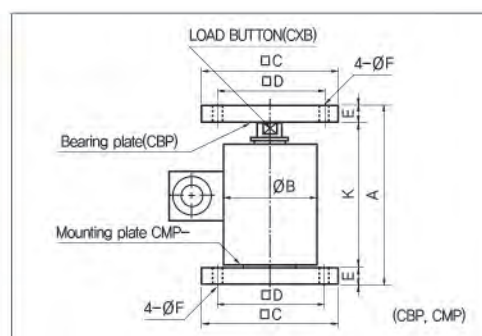
Model	Load Cell Cap	A	B	C	D	E	F	G	H	I
CLB-1 CLM-1	CL-1T~5T	96	150	120	98	9	25	46	150	120
CLB-2 CLM-2	CL-10T	125	160	130	118	12	30	65	160	130
CLB-3 CLM-3	CL-20T	125	190	150	157	14	30	65	180	150
CLB-4 CLM-4	CL-50T	165	230	170	187	23	45	75	220	190
CLB-5 CLM-5	CL-100T	240	320	250	278	27	60	120	310	270



>CANISTER TYPE(CX)

unit:mm

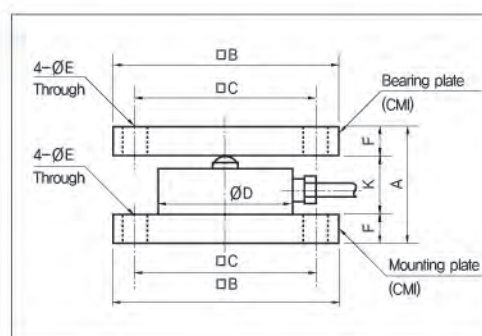
Model	Load Cell Cap	A	B	C	D	E	F	K
CPB-1 CMP-1	CX-50K~CX-1T	162	88	145	110	23	12	434
CPB-2 CMP-2	CX-2T~CX-5T	222	88	145	110	26	12	170
CPB-3 CMP-3	CX-10T	187	93	160	125	30	14	127
	CX-20T~30T	207	93	160	125	30	14	147
CPB-4 CMP-4	CX-50T	245	137	160	125	40	19	165
CPB-5 CMP-5	CX-100T	330	166	260	200	60	23	210



>CM TYPE

unit:mm

Model	Load Cell Cap	A	B	C	D	E	F	G
CMI-1	CM-50K~2T	56	100	78	51	8	15	26
CMI-2	CM-5T	102	160	126	88	14	30	42
	CM-10T	107	160	126	88	14	30	47
CMI-3	CM-20T	110	160	126	114	14	30	50



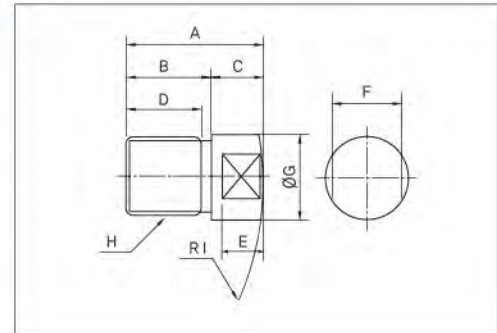
★ Specifications are subject to change without notice.

Load Cell Accessory

LOAD BUTTON

unit:mm

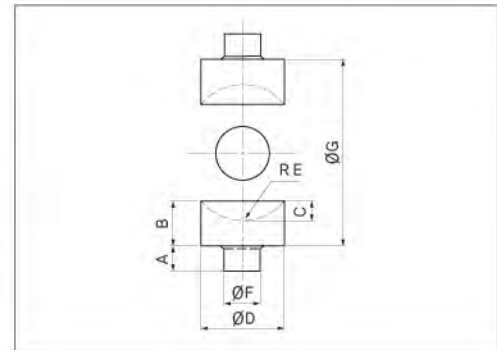
Model	Load Cell Cap	A	B	C	D	E	F	G	H	R I
CXB-1	CX-50K~1T	19	10	9	7	6.7	16	24	M12×1.25	65
CXB-2	CX-2T~5T	43	23	20	19	18	32	42	M24×2	60
ULB-1	UL-1T~5T	60	40	20	36	20	27	34	M18×1.5	100
ULB-2	UL-10T	70	40	30	36	30	36	39	M24×2.0	100
ULB-3	UL-20T	100	60	40	56	40	50	59	M39×2.0	200
ULB-4	UL-50T	105	60	45	56	45	65	80	M50×2	200
ULB-5	UL-100T	145	80	65	75	65	105	116	M76×3	240
ULB-6	UL-500K	27	15	12	13	9	14	20	M12×1.25	65



MOVEMENT ABSORBER UNIT FOR CP

unit:mm

Model	Load Cell Cap	A	B	C	ØD	RE	ØF	Ball
CPB11	5kgf~300kgf	11	16	7	30	19.5	11.4	Ø19
CPB13	500kgf~2tf	11	16	7	30	19.5	13.4	Ø19
CPB18	3tf~5tf	11	15	10	40	24.0	18.0	Ø25.4
CPB26	10tf	15	27	12	60	40.0	26.0	Ø38.1



ROD END BEARING

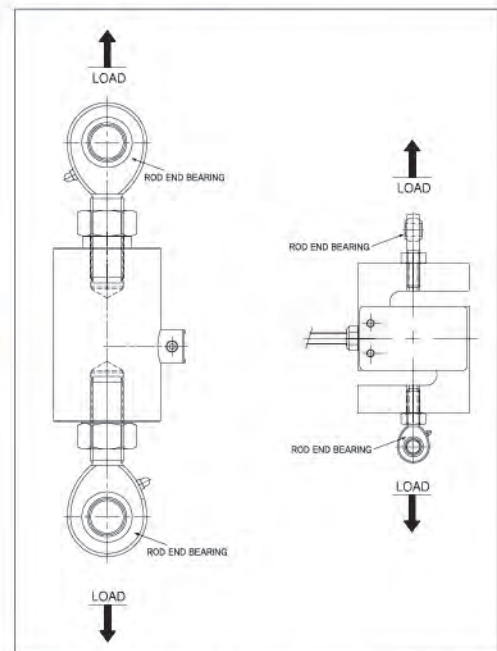
unit:mm

Model	Specification	Pitch	Application			
REF-3	M3	0.5	UMM			
REF-6	M6	1	UMM			
REF-12	M12	1.25	UM			
REF-16	M16	1.5	TX25			
REF-20	M20	1.5	TX25			
REF-24	M24	2	TX25			



Model	Specification	Pitch	Application			
REM-4	M4	0.7	UMI			
REM-6	M6	1	UU	UU2	UU3	UMI
REM-12	M12	1.25	TX	UL		
REM-12A	M12	1.75	UU	UMI		
REM-18	M18	1.5		UMI		
REM-20	M20	1.5	UU			
REM-24	M24	2	TX	UU		
REM-39	M39	2	TX	UU		

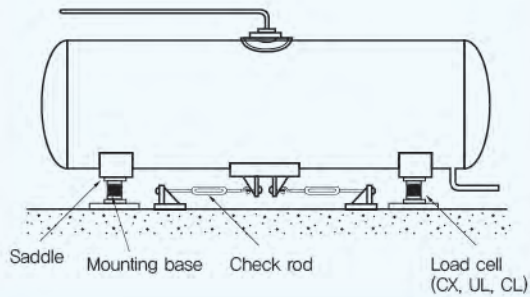
unit:mm



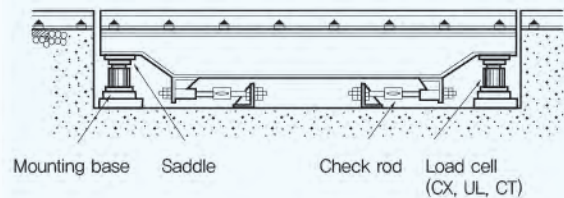
★ Specifications are subject to change without notice.

Load Cell Serve Extensively

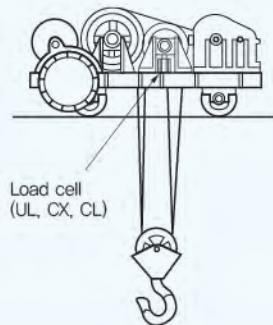
Measurement of tank's storage capacity



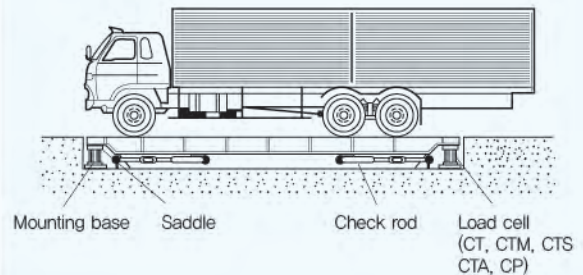
Measurement of freight-car weight



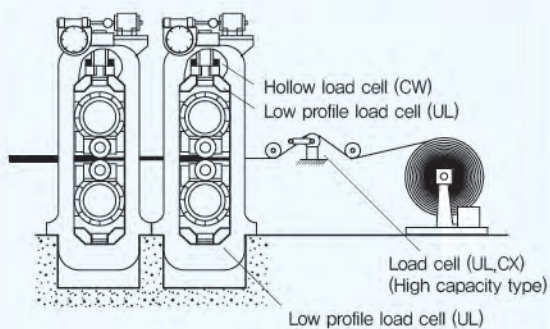
Measurement of swing weight



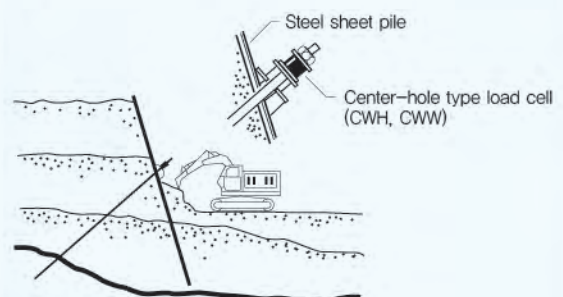
Measurement of truck weight



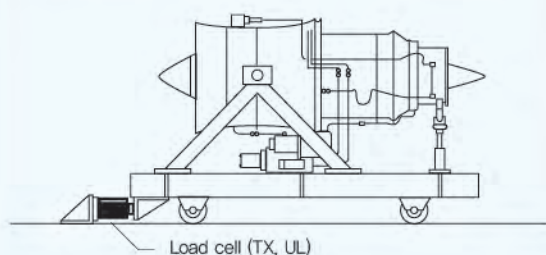
Measurement of rolling mill roll pressure



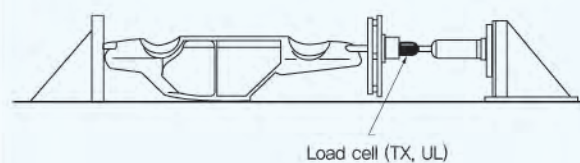
Measurement of load to bank with steel sheet pile



Measurement of jet engine's thrust



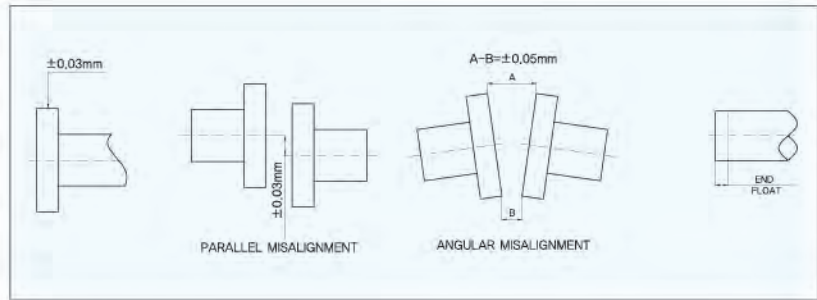
Measurement of vehicle body



Installation of Torque Sensors

1. Shaft Misalignments

Parallel misalignment is the offset of two mating shaft centerlines although the centerlines remain parallel to each other. Angular misalignment is two shaft centerlines intersecting at some angle other than zero degrees. End float is the relative displacement of one shaft end with respect to the other.



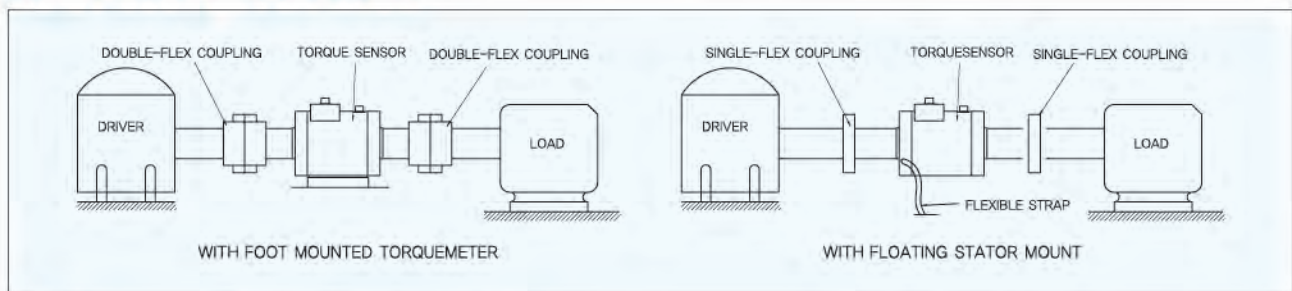
2. Coupling Types (single-flex, double-flex and rigid Coupling)

A single-flex coupling accepts angular misalignment only. That means it acts as a hinge or a pivot and cannot accept parallel misalignment. A double-flex coupling accept both angular and parallel misalignment. It may be visualized as two single-flex couplings with a short spacer or distance between the pivots. Depending on their design, both single-flex and double-flex types may or may not accept end float. A rigid coupling, as its name implies, is merely a set of rigid flanges mounted on a shaft. It cannot compensate for or permit any misalignment.

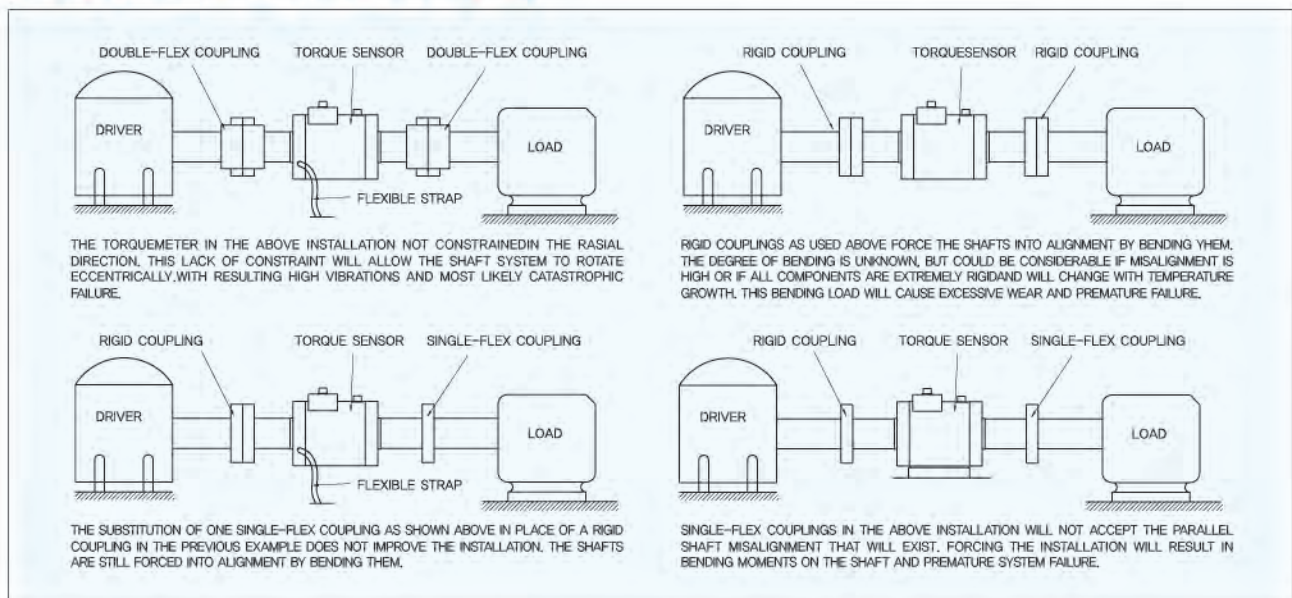
3. Torquemeter Mountings

Floating Shaft – applicable to both shaft and flange type torquemeters. Use a single flex coupling at each shaft end to accommodate angular misalignment Foot Mounted – for shaft style torquemeters only. Use a double flex coupling at each shaft end to handle both parallel and angular misalignments.

BEST INSTALLATIONS



INCORRECT INSTALLATIONS



Technical Definitions of Terminology

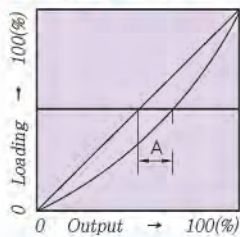
1 RATED CAPACITY (R.C.)

The maximum axial load that a load cell is designed to measure within its specification.

2 RATED OUTPUT (R.O.)

The algebraic difference between the outputs at no-load and at rated load. Usually load cell output is specified in milli-volts per volt at rated capacity.

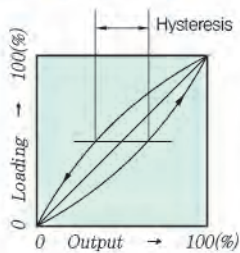
3 NON-LINEARITY



The maximum deviation of the calibration curve from a straight line between zero and rated load outputs, expressed as a percent of the rated output and measured on increasing load only.

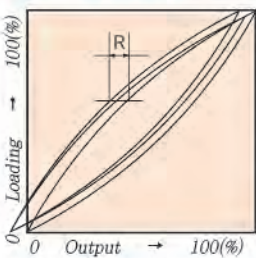
A: Linear line drawn to obtain terminal linearity

4 HYSTERESIS



The maximum difference between output readings for the same applied load one point obtained while increasing from zero and the other while decreasing from rated output. The points are taken on the same continuous cycle. The deviation is expressed as a percent of rated output.

5 REPEATABILITY



The ability of a load cell to reproduce output readings when the same load is applied to it consecutively, under the same conditions, and in the same direction. Repeatability is expressed as the maximum difference between output readings as a percent of rated output.

6 ZERO BALANCE

The output signal of the load cell with rated excitation and with no load applied, usually expressed in percent of rated output.

7 TEMPERATURE RANGE, COMPENSATED

The range of temperature over which the load cell is compensated to maintain rated output and zero balance within specific limits.

8 TEMPERATURE RANGE, SAFE

The range of temperature over which the load cell may be safely operated up to full scale without causing failure but specifications may not be met.

9 TEMPERATURE EFFECT ON RATED OUTPUT

The change in rated output due to a change in ambient temperature. Usually expressed as $\pm$ a percentage

change in rated output per degree C change in ambient temperature, over the compensated temperature range.

10 TEMPERATURE EFFECT ON ZERO BALANCE

The change in zero balance due to a change in ambient temperature. Usually expressed as $\pm$ a percentage change in rated output per degree C change in ambient temperature, over the compensated temperature range.

11 TERMINAL RESISTANCE, INPUT

The resistance of the load cell circuit measured at the excitation terminal, at standard temperature, with no-load applied, and with the output terminals open-circuited.

12 TERMINAL RESISTANCE, OUTPUT

The resistance of the load cell circuit measured at the output signal terminals, at standard temperature, with no-load applied, and with the excitation terminals open-circuited.

13 INSULATION RESISTANCE

The DC resistance expressed in ohms measured between any electrical connector pin or lead wire and the load cell body or case. Normally measured at 50 V DC.

14 EXCITATION

The voltage or current applied to the input terminals of the load cell.

15 SAFE OVERLOAD

The maximum load in percent of rated capacity which can be applied without causing a permanent change in the performance specifications.

16 ULTIMATE OVERLOAD

The maximum load in percent of rated capacity which can be applied without producing a structural failure.

17 CREEP

The change in load cell output occurring with time, while under load, and with all environmental conditions and other variables remaining constant. Usually measured with rated load applied and expressed as a percent of rated output over a specific period of time.

18 ACCURACY

Stated as a limit tolerance which defines the average deviation between the actual output versus theoretical output.

In practical load cell applications, the potential errors of nonlinearity, hysteresis, repeatability and temperature effects do not normally occur simultaneously, nor are they necessarily additive.

Therefore, accuracy is calculated based upon the RMS value of potential errors, assuming a temperature band of $\pm 10^\circ\text{C}$, full rated load applied, and proper set up and calibration. Potential errors of the readout, cross talk, or creep effects are not included.

LOAD CELL **TORQUE**

REMOTE DISPLAY & MINI PRINT

<http://www.dacell.com>

INDICATOR
AMPLIFIER

DIGITAL GAUGE
ACCESSORIES



다셀(주)

28182 충북 청주시 서원구 남이면 척산5길 37-9

TEL : (043)260-2242(代) | FAX : (043)260-2245

E-mail : dana@danaloadcell.com

DACELL CO., LTD.

37-9 Cheoksan5-gil Nami-myeon Seowon-gu

Cheongju-city Chung-buk, 28182 KOREA

TEL : +82-43-260-2242 | FAX : +82-43-260-2245

★ 제품의 사양은 성능개선을 위하여 예고없이 변경될 수 있습니다.

Specifications are subject to change without notice.