Z Series :

ZPS for USB model

Z2S for non USB model

Separate sensor model

[Applications]
Measuring of the strength of electronic parts bonding or soldering
Measuring of contact press for touch panel or keyboard
Measuring of push / pull force for connector pin or slide cap
Pull testing of pull top can or noodle container lid

[Features]
1 Digital display of tension and compression forces
2 Measuring units (kgf, N, lbf) are selectable.
3 Since USB output signal is equipped for ZPS series, fast and easy to connect to computer.
4 1000 times sampling per second
5 Comparator function for setting Hi / Lo point values
6 Memory function to store data for analysis
7 Reversible display function
8 Overload prevention LED and alarm
9 Push and Pull peak hold by one cycle

[Specification]

Model	ZPS	Z2S
Unit	kgf/(k)N/lbf or gf/N/ozf Selectable	
Display	4 digit LCD-Unit-Mode-Overload LED-Comparator LED [Reversible]	
Sampling speed	1000 times/sec	
Display update	10 times/sec	
Usage Capacity	According to each capacity	
Overload capacity	200%F.S. (LED flashing and buzzing beyond 110%)	
A/D converter	24bit delta sigma	
Micro processor	8 bit 1 tip microprocessor	
Accuracy	DPU : +/- 0.2% F.S. +/- 1 digit LM : 5 to 2000N = +/- 1% F.S. +/- 1 digit, 5000N/10kN = +/- 1.5% F.S. +/- 1 digit, 20kN = +/- 2.5% F.S. +/- 1 digit LC : +/- 0.5% F.S. +/- 1 digit LCK : +/- 0.5% F.S. +/- 1 digit	
Battery use	8 hours continuous use with full charge Approx. 10 hours for charge	
Use temperature	0-+40 degree Celsius	
Power	Internal NiMH rechargeable battery, AC adapter	
Output	USB	Mitutoyo digimatic
	Analog (+/- 2V F.S.)	
	Serial RS232C	
	Comparator signal (+NG, OK, -NG) : Open collector MAX30V10mA	
	Overload warning signal (OVL) : Open collector MAX30V10mA	
Peak hold	Compression or tension, compression and tension	
Comparator function	Programmable high/low set points with color coded indicators	
Memory function	1000 measurement values	
Display reverse function	Measurement value and unit	
Alarm	Overload and +NG(ON/OFF selectable)	
Other functions	Auto zero clear (1.0~25 sec setup) damping mode (7 level setup)	
Auto power OFF	5, 10, 30, 60 minutes, and OFF selectable	
Accessories	USB cable, driver CD-ROM	-
	Load Cells for Tension/Compression DPU series, 8 attachment(DPU-2N to 500N) 6 attachment(DPU-1000N to 20kN) or Load Cells for Compression LM/LC/LCK series, AC adapter, instruction manual, Carrying case	
External connecting switch	Display hold, zero clear, and peak/track select	

Note 1) Since commercial power supply voltage varies in the area where the gauge is used, three types (100V, 120V, 230V) of voltage adapters are available. Please specify the confirmed voltage for the commercial power supply when you order.

Note 2) The accuracy will change according to the specification of load cell. This specification is corresponded to DPU series.

2006/2/15

[ZPS/Z2S series available models]

Load Cells for Tension/Compression DPU

Model	Capacity	Display	Resolution
ZPS(Z2S)- DPU-2N	2N(200gf)	2.00N(200.0gf)	0.001N(0.1gf)
ZPS(Z2S)- DPU-5N	5N(500gf)	5.000N(500.0gf)	0.001N(0.1gf)
ZPS(Z2S)- DPU-20N	20N(2kgf)	20.00N(2.000kgf)	0.01N(0.001kgf)
ZPS(Z2S)- DPU-50N	50N(5kgf)	50.00N(5.000kgf)	0.01N(0.001kgf)
ZPS(Z2S)- DPU-100N	100N(10kgf)	100.0N(10.00kgf)	0.1N(0.01kgf)
ZPS(Z2S)- DPU-200N	200N(20kgf)	200.0N(20.00kgf)	0.1N(0.01kgf)
ZPS(Z2S)- DPU-500N	500N(50kgf)	500.0N(50.00kgf)	0.1N(0.01kgf)
ZPS(Z2S)- DPU-1000N	1000N(100kgf)	1000N(100.0kgf)	1N(0.1kgf)
ZPS(Z2S)- DPU-2000N	2000N(200kgf)	2000N(200.0kgf)	1N(0.1kgf)
ZPS(Z2S)- DPU-5000N	5000N(500kgf)	5000N(500.0kgf)	1N(0.1kgf)
ZPS(Z2S)- DPU-10kN	10kN(1000kgf)	10.00kN(1000kgf)	0.01kN(1kgf)
ZPS(Z2S)- DPU-20kN	20kN(2000kgf)	20.00kN(2000kgf)	0.01kN(1kgf)

[Model specification]
Please specify a load cell model following.
For example : Display “ZPS” , Load Cell “DPU” , Capacity ”500N”
ZPS - DPU - 500N

Imada’s load cell other than the standard set can also be selected.
Please refer to load cell specification for detail.

Load Cells for Compression LM/LC/LCK

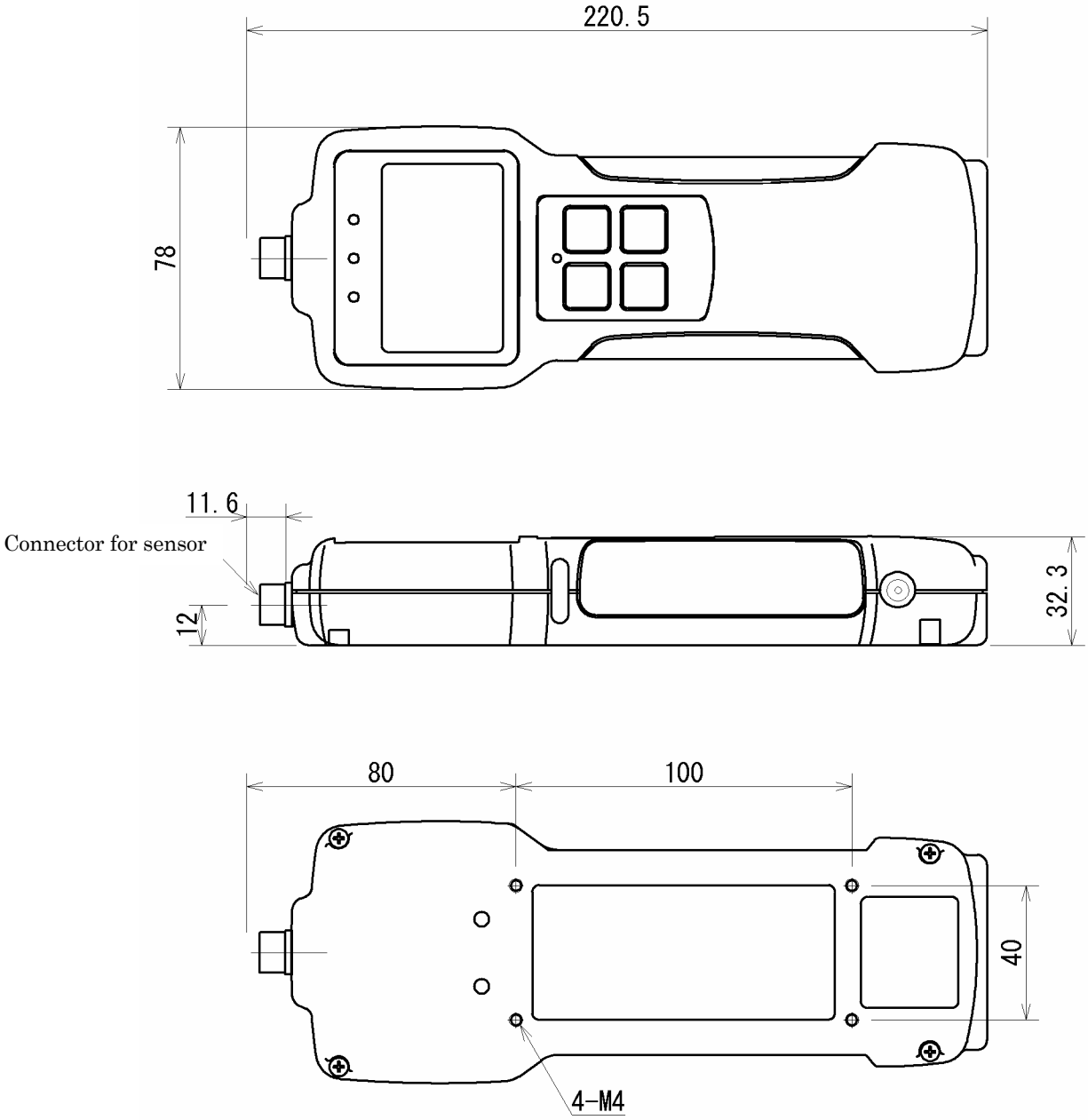
Model	Capacity	Display	Resolution
ZPS(Z2S)- LM-5N	5N(500gf)	5.00N(500.0gf)	0.001N(0.1gf)
ZPS(Z2S)- LM-10N	10N(1kgf)	10.00N(1.000kgf)	0.01N(0.001kgf)
ZPS(Z2S)- LM-20N	20N(2kgf)	20.00N(2.000kgf)	0.01N(0.001kgf)
ZPS(Z2S)- LM-50N	50N(5kgf)	50.00N(5.000kgf)	0.01N(0.001kgf)
ZPS(Z2S)- LM-100N	100N(10kgf)	100.0N(10.00kgf)	0.1N(0.01kgf)
ZPS(Z2S)- LM-200N	200N(20kgf)	200.0N(20.00kgf)	0.1N(0.01kgf)
ZPS(Z2S)- LM-500N	500N(50kgf)	500.0N(50.00kgf)	0.1N(0.01kgf)
ZPS(Z2S)- LM-1000N	1000N(100kgf)	1000N(100.0kgf)	1N(0.1kgf)
ZPS(Z2S)- LM-2000N	2000N(200kgf)	2000N(200.0kgf)	1N(0.1kgf)
ZPS(Z2S)- LM-5000N	5000N(500kgf)	5000N(500.0kgf)	1N(0.1kgf)
ZPS(Z2S)- LM-10kN	10kN(1000kgf)	10.00kN(1000kgf)	0.01kN(1kgf)
ZPS(Z2S)- LM-20kN	20kN(2000kgf)	20.00kN(2000kgf)	0.01kN(1kgf)
ZPS(Z2S)- LC-500N	500N(50kgf)	500.0N(50.00kgf)	0.1N(0.01kgf)
ZPS(Z2S)- LC-1000N	1000N(100kgf)	1000N(100.0kgf)	1N(0.1kgf)
ZPS(Z2S)- LC-2000N	2000N(200kgf)	2000N(200.0kgf)	1N(0.1kgf)
ZPS(Z2S)- LC-5000N	5000N(500kgf)	5000N(500.0kgf)	1N(0.1kgf)
ZPS(Z2S)- LC-10kN	10kN(1000kgf)	10.00kN(1000kgf)	0.01kN(1kgf)
ZPS(Z2S)- LC-20kN	20kN(2000kgf)	20.00kN(2000kgf)	0.01kN(1kgf)
ZPS(Z2S)- LCK-5000N	5000N(500kgf)	5000N(500.0kgf)	1N(0.1kgf)
ZPS(Z2S)- LCK10kN	10kN(1000kgf)	10.00kN(1000kgf)	0.01kN(1kgf)
ZPS(Z2S)- LCK-20kN	20kN(2000kgf)	20.00kN(2000kgf)	0.01kN(1kgf)

[Model specification]
Please specify a load cell model following.
For example : Display “Z2S” , Load Cell “LC” , Capacity ”1000N”
Z2S - LC - 1000N

Imada’s load cell other than the standard set can also be selected.
Please refer to load cell specification for detail.

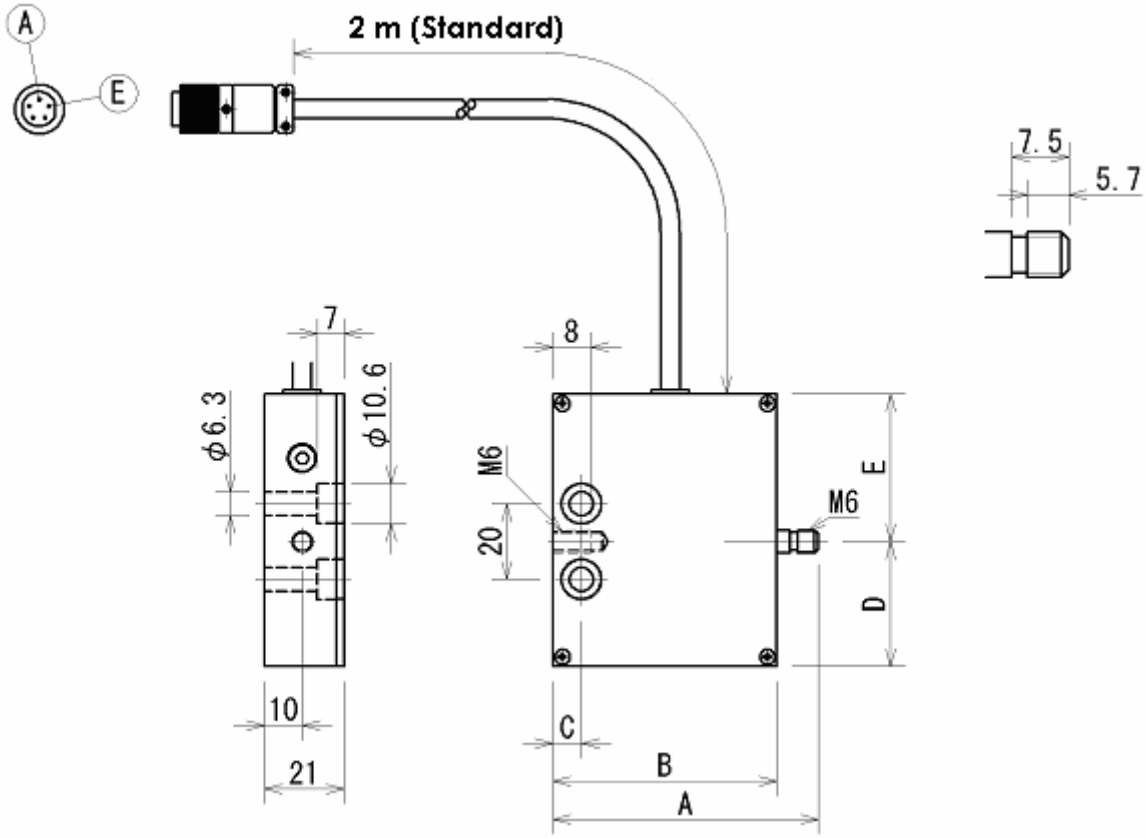
[Dimension]

ZPS/Z2S



Load cell DPU series

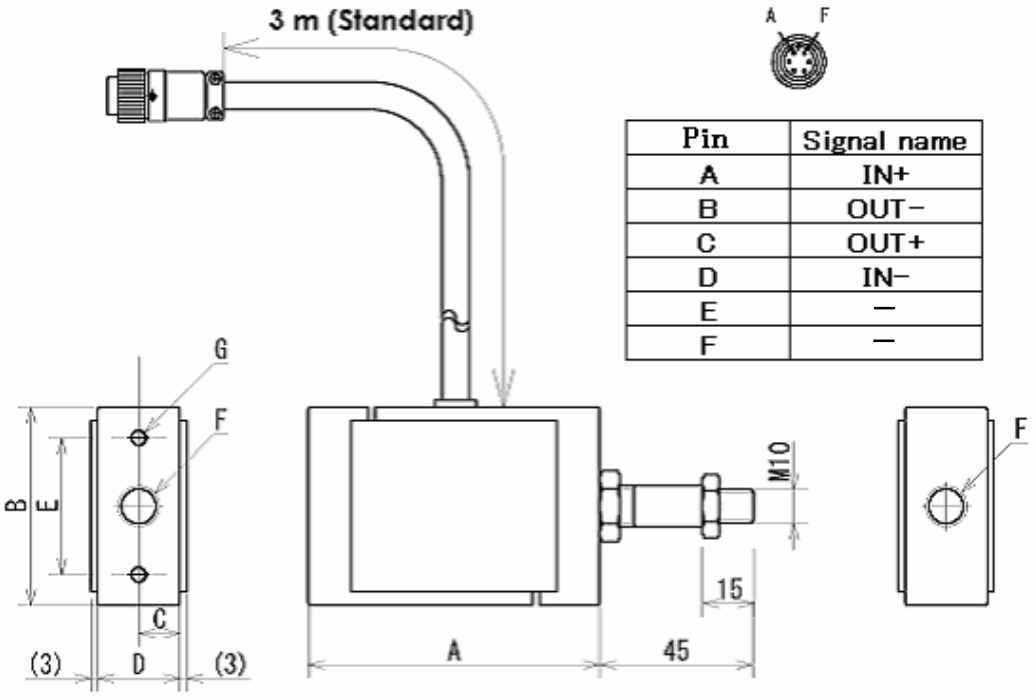
DPU-2N to 500N
Accuracy : +/- 0.2% F.S. +/- 1 digit



Pin	Signal name
A	IN+
B	OUT-
C	OUT+
D	IN-
E	-

Model	A	B	C	D	E
DPU-2N	71	57	12	26	32
DPU-5N	71	57	12	26	32
DPU-10N	71	57	12	26	32
DPU-20N	73	59	7.5	33	39
DPU-50N	73	59	7.5	33	39
DPU-100N	73	59	7.5	33	39
DPU-200N	73	59	7.5	33	39
DPU-500N	73	59	7.5	33	39

DPU-1000N to 20kN
Accuracy : +/- 0.2% F.S. +/- 1 digit



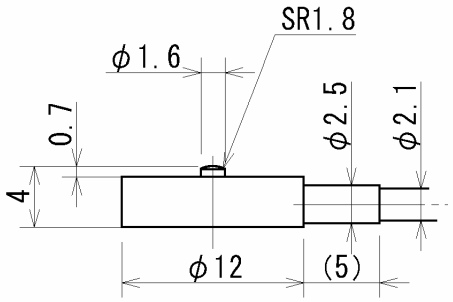
Model	A	B	C	D	E	F	G	Remark
DPU-1000N	85	58	20	24	40	M12P1.75 Depth 15	M5 Depth 8	With the sensing shaft
DPU-2000N	85	58	20	24	40	M12P1.75 Depth 15	M5 Depth 8	With the sensing shaft
DPU-5000N	85	58	20	24	40	M12P1.75 Depth 15	M5 Depth 8	With the sensing shaft
DPU-10kN	105	78	32	36	60	M18 P1.5 Depth 22	M6 Depth 10	Without the sensing shaft
DPU-20kN	110	88	35	40	60	M18 P1.5 Depth 22	M6 Depth 10	Without the sensing shaft

For other load cells, please refer to their specification for detail.

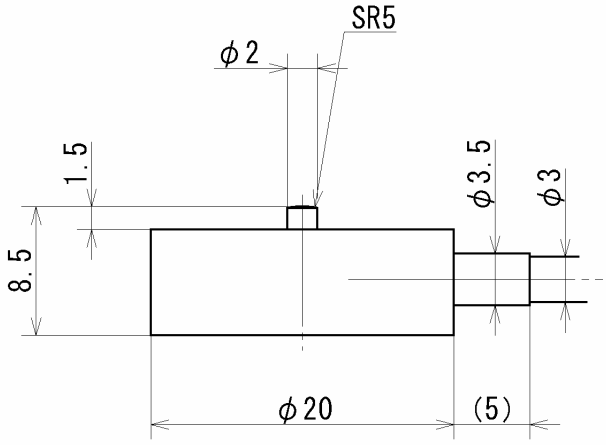
Load cell LM/LC/LCK series

LM-5N to 20kN

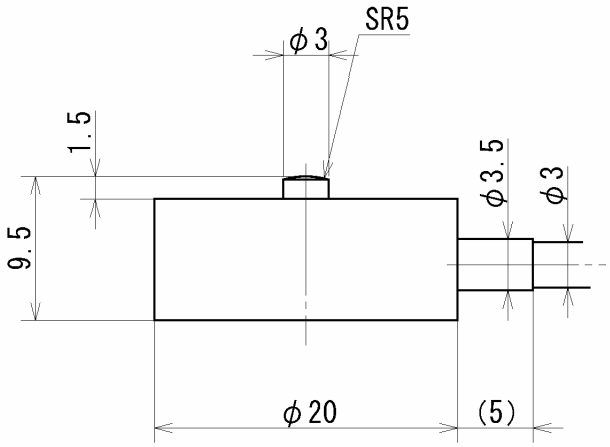
Accuracy : 5 to 2000N = +/- 1% F.S. +/- 1 digit,
5000N/10kN = +/- 1.5% F.S. +/- 1 digit,
20kN = +/- 2.5% F.S. +/- 1 digit



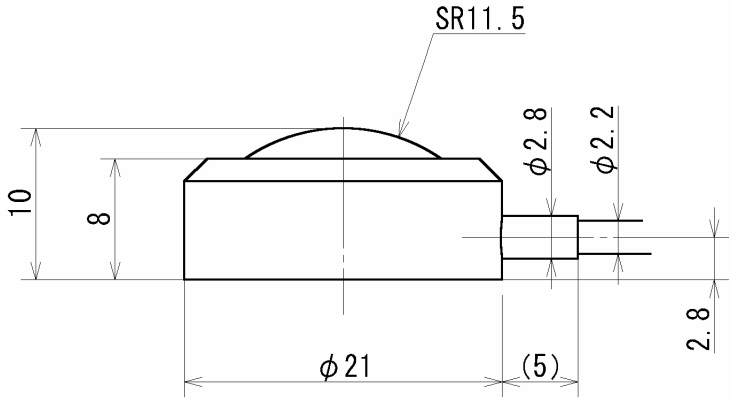
[LM-5N~50N]



[LM-100N~1000N]

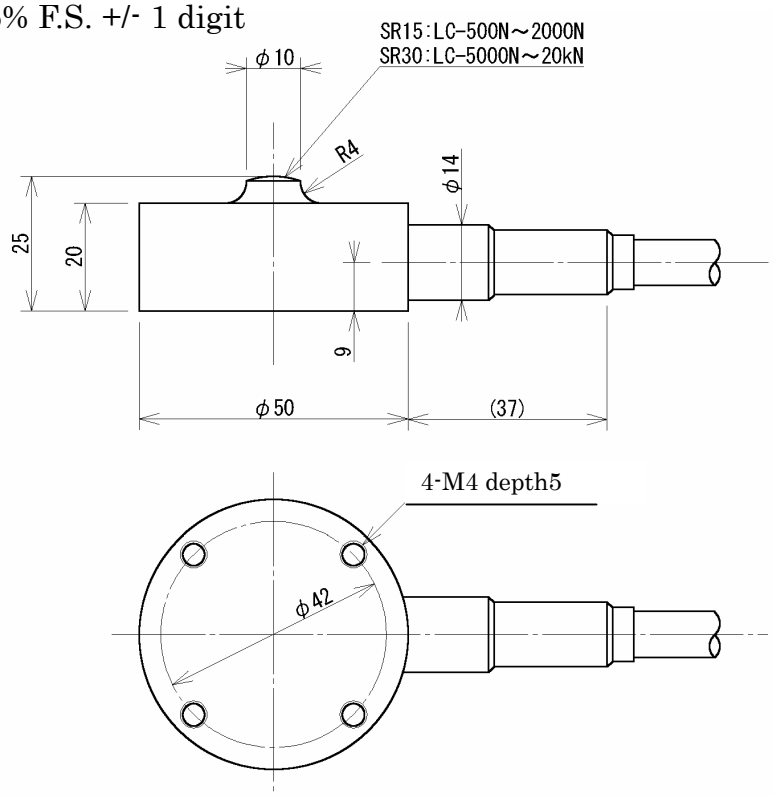


[LM-2000N]

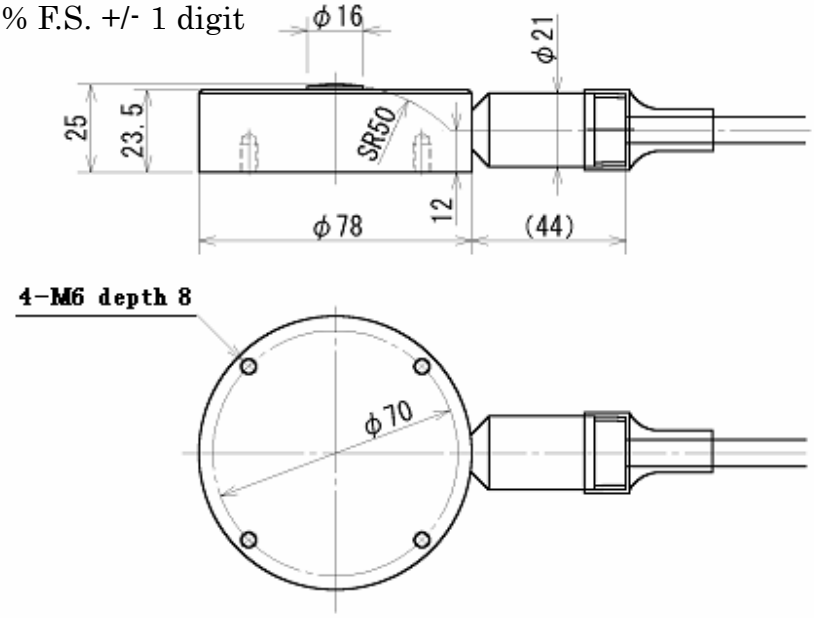


[LM-5000N~20kN]

LC-500N to 20kN
Accuracy : +/- 0.5% F.S. +/- 1 digit



LCK-5000N to 20kN
Accuracy : +/- 0.5% F.S. +/- 1 digit



[Precaution]

- Please pay close attention for the installation of the load cells.
  Never apply strong force or impact especially on the sensing direction.
  Do not apply bending or torsion stress when setting up the sensing shaft to a measuring object.
- Do not use in the condition of rapid temperature changes, high temperature, high humidity, near water and dusty place.
- All information is subject to change without prior notice.

2006/2/15