

SPECIFICATION

S-letter form Beam type Load Cell

Load Cell
U3S1-100K~5T-NS

SPEC.No.EN213051-B

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● Performance

Rated capacity	: 980.7 N{100 kgf}~49.03kN{5 tf}
Safe overload	: 150 %R.C.
Ultimate overload	: 200 %R.C.
Rated output	: -3 mV/V $\pm$ 0.003 mV/V(Tension load) 3 mV/V $\pm$ 0.015 mV/V(Compression load)
Non-linearity	: 0.025 %R.O.
Hysteresis	: 0.025 %R.O.
Repeatability	: 0.025 %R.O.
Creep	: 0.03 %R.O./20 min
Creep recovery	: 0.03 %R.O./20 min

● Electrical

Excitation, recommended	: 12 V or less
Excitation, at maximum	: 20 V
Zero balance	: $\pm$ 0.03 mV/V
Input resistance	: 420 Ω $\pm$ 40 Ω
Output resistance	: 350 Ω $\pm$ 5 Ω
Insulation resistance (between bridge and main body)	: 2 000 M Ω or more (DC 50 V)

● Temperature

Temperature range, compensated	: -10 $^{\circ}$ C to 70 $^{\circ}$ C
Temperature range, safe	: -20 $^{\circ}$ C to 80 $^{\circ}$ C
Temperature effect on zero balance	: 0.05 %R.O./10 $^{\circ}$ C
Temperature effect on output	: 0.02 %LOAD/10 $^{\circ}$ C

● Cable

: ϕ 4.7, 4-cores shielded 6 m cable directly attached.
Y-type solderless terminal is attached at the cable end.

● Class of protection

: Equivalent to IP67 (Main body only)
(JIS C0028, normal operation after 10 cycles are over.)

● Material of element

: Alloy steel

● Paint

: Painted with epoxy resin (Black)

● Durability

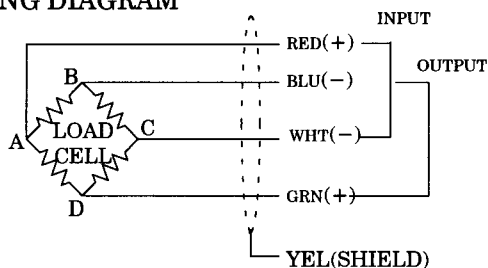
: 10⁶ times with rated load.

Note) R.O. means Rated Output and also R.C. means Rated Capacity.

Polarity of output will become plus(+) when the direction of compression load is applied.

If polarity change is required, change wiring of blue and green.

WIRING DIAGRAM



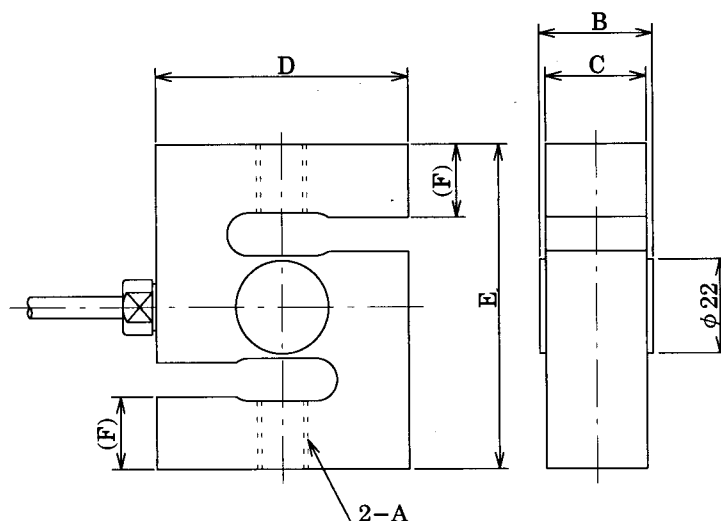
Composition	
Main body	1

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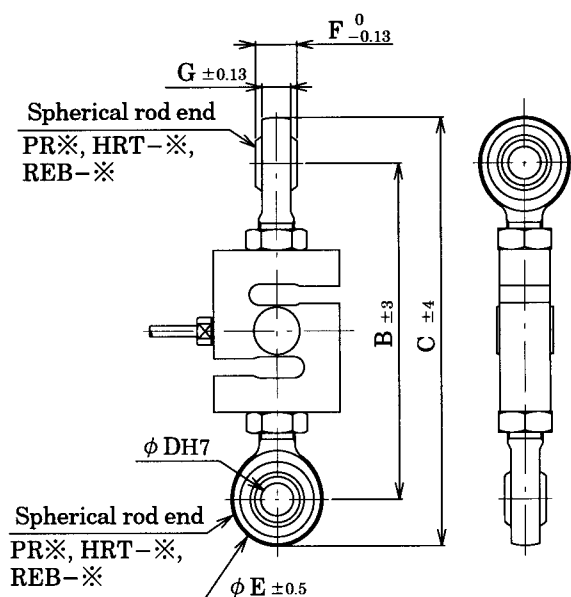


Outline drawing

(Unit : mm)

P/No.	Rated capacity	A	B	C	D	E	F	Rated displacement	Natural frequency (Hz)	Weight (Approx.kg)
U3S1-100K-NS	980.7 N{100 kgf}	M12×1.75	-	24	60	76	18	0.15	1 500	0.8
U3S1-200K-NS	1.961 kN{200 kgf}	M12×1.75	27	24	60	76	18	0.14	1 700	0.8
U3S1-500K-NS	4.903 kN{500 kgf}	M12×1.75	27	24	60	76	17	0.14	2 000	0.8
U3S1-1T-NS	9.807 kN{1 tf}	M12×1.75	27	24	60	76	16	0.13	2 500	0.8
U3S1-2T-NS	19.61 kN{2 tf}	M24×2	38	35	80	108	27	0.15	2 300	1.9
U3S1-5T-NS	49.03 kN{5 tf}	M24×2	38	35	100	120	29	0.18	2 000	2.7

With spherical rod end installed.



Composition

Main body	1
Spherical rod end (PR※, HRT-※, REB-※)	2
Hexagon nut (Accessory of PR, REB and HRT)	2

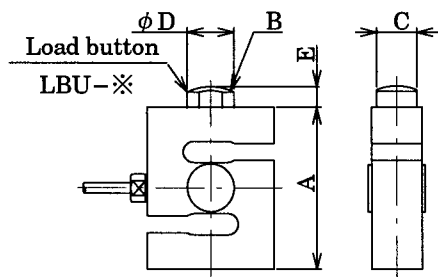
Outline dimension

(Unit : mm)

P/No.	P/No. of accessory (Option)	B	C	φ D	φ E	F	G	Weight (Approx . kg)
U3S1-100K-NS	PR12E	146	176	12	30	16	12	1
	HRT-12E	160	194	12	34	16	13.25	1.05
U3S1-200K-NS	PR12E	146	176	12	30	16	12	1
	HRT-12E	160	194	12	34	16	13.25	1.05
U3S1-500K-NS	PR12E	146	176	12	30	16	12	1
	HRT-12E	160	194	12	34	16	13.25	1.05
U3S1-1T-NS	PR12E	146	176	12	30	16	12	1
	HRT-12E	160	194	12	34	16	13.25	1.05
U3S1-2T-NS	REB-4	224	286	22	62	28	19.3	4.2
U3S1-5T-NS	REB-4	232	294	22	62	28	19.3	5.0

SPECIFICATION

With load button installed.



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Composition

Main body	1
Load button(LBU-※)	1

Outline dimensions

P/No.	P/No. of accessory (Option)	A	B	C	ϕD	E	Weight (Approx.kg)
U3S1-100K-NS	LBU-17	76	SR25	19	22	10	0.9
U3S1-200K-NS	LBU-17	76	SR25	19	22	10	0.9
U3S1-500K-NS	LBU-17	76	SR25	19	22	10	0.9
U3S1-1T-NS	LBU-17	76	SR25	19	22	10	0.9
U3S1-2T-NS	-	-	-	-	-	-	-
U3S1-5T-NS	-	-	-	-	-	-	-

Specifications and outline dimensions and so on which have printed may subject to change for the purpose of improvement.