

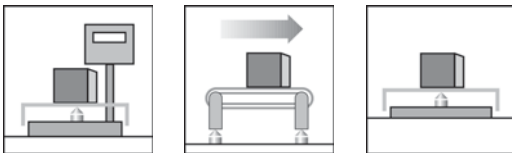


Special features

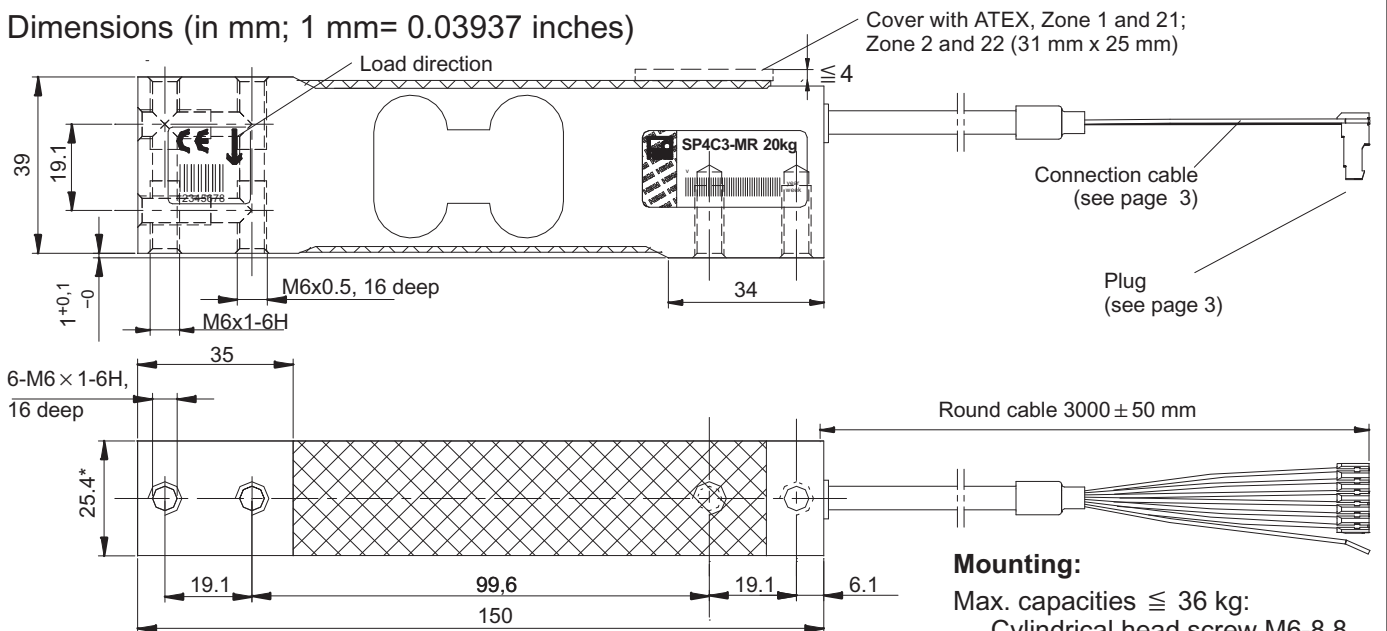
- Accuracy class C3MR and C6MR with OIML-R60 test report
- Off center load compensated (OIML R 76)
- Degree of protection IP67 (according to EN 60 529)
- Shielded connection cable
- Suitable for multi range applications

Optional:

- Explosion proof versions
- Different cable lengths
- Aligned output, suitable for connection in parallel



Dimensions (in mm; 1 mm= 0.03937 inches)



* SP 4/1 kg: 18 mm

Mounting:

- Max. capacities \leq 36 kg:
Cylindrical head screw M6-8.8
Tightening torque: 6 N-m
- Max. capacities \geq 50 kg:
Cylindrical head screw M6-10.9
Tightening torque: 14 N-m

Specifications

Type	SP4M...														
Accuracy class ¹⁾	C3MR														
Max. number of load cell intervals (n _{LC})	3000														
Maximum capacity (E _{max}) ²⁾	kg	1	3	5	7	10	15	20	30	50	75	100	150	200	
Minimum LC verification interval (v _{min})	g	0.1	0.2	0.5	0.5	1	1	2	2	5	5	10	10	20	
Temperature effect on zero balance (TK ₀)	% v. C _n /10 K	± 0.0140	± 0.0093	± 0.0140	± 0.0100	± 0.0140	± 0.0093	± 0.0140	± 0.0093	± 0.0140	± 0.0093	± 0.0140	± 0.0093	± 0.0140	
Maximum platform size	mm	300 × 300					450 × 450			600 × 600					
Sensitivity (C _n) Maximum capacity 1 kg Maximum capacities 3 kg ...200 kg	mV/V	1.8 +15 %; -10 % (Option 6: A1 = 1.8 mV/V ± 0.1 %) 2.0 ± 10 % (Option 6: A = 2mV/V ± 0.1 %)													
Zero balance		0 ± 0.1													
Temperature effect on sensitivity (TK _C) ³⁾ Temperature, range +20...+40 °C [+68...+104 °F] -10...+20 °C [+14...+68 °F]	% of C _n /10 K	± 0.0175 ± 0.0117													
Non-linearity (d _{lin}) ³⁾ Hysteresis error (d _{hy}) ³⁾ Minimum dead load output return (MDLOR) Off center load error ⁴⁾	% of C _n	± 0.0166 ± 0.0166 ± 0.0166 ± 0.0233													
Input resistance (R _{LC}) Output resistance (R ₀)	Ω	300...500 300...500 (Option 6: A = 410 Ω ± 0.2 Ω)													
Reference excitation voltage (U _{ref})	V	5													
Nom. range of excitation voltage (B _U) Max. excitation voltage		1 ... 12 15													
Isolation resistance (R _{is}) at 100 V _{DC}		>2													
Nom. (rated) range of ambient temperature (B _T) Operating temperature range (B _{tu}) Storage temperature range (B _{tl})	°C [°F]	-10 ... +40 [+14...+104] -10 ... +50 [+14...+122] -25 ... +70 [-13...+158]													
Limit load (E _L) Lateral load limit (E _{lq}), static Breaking load (E _d)	% of E _{max}	150 300 300													
Nominal (rated) displacement at E _{max} (s _{nom}), approx.	mm	< 0.5	< 0.3				< 0.25								
Weight (G), approx.	kg	0.45													
Degree of protection acc. to EN 60 529 (IEC 529)		IP67													
Material: Measuring body Application protection Cable sheath		Aluminum Silicone rubber PVC													

1) According to OIMLR60 with P_{LC} = 0.7.

2) Max. eccentric loading according to OIML R76.

3) The values for linearity deviation (d_{lin}), relative reversibility error (d_{hy}) and temperature effect on sensitivity (TK_C) are recommended values. The sum of these values remain within the cumulated error limit acc. to OIML R60.

4) According to OIML R76.

Specifications (continuation)

Type		SP4MC6MR				
Accuracy class ¹⁾		C6MR				
Maximum number of load cell intervals (n_{LC})		6000				
Maximum capacity (E_{max}) ²⁾	kg	7	10	15	18	36
Minimum LC verification interval (v_{min})	g	0.5	0.5	1	1	2
Temperature effect on zero balance (TK_0)	% of C_n / 10 K	± 0.0100	± 0.0070	± 0.0093	± 0.0070	± 0.0070
Max. platform size	mm	300 x 300		450 x 450		
Sensitivity (C_n)	mV/V	2.0 \pm 10 %			1.8 \pm 10 %	2.4 \pm 10 %
Zero signal		0 \pm 0.10				
Temperat. effect on sensitivity (TK_C) in the temperature range ³⁾ +20...+40 °C [+68...+104 °F] -10...+20 °C [+14 ... +68 °F]	% of C_n / 10 K	± 0.0087 ± 0.0058				
Relative reversibility error (d_{hy}) ³⁾	% of C_n	± 0.0083				
Non-linearity (d_{lin}) ³⁾		± 0.0166				
Minimum dead load output return (MDLOR)		± 0.0083				
Off-center load error ⁴⁾		± 0.0116				

¹⁾ According to OIMLR60 with $P_{LC} = 0.7$

²⁾ Max. eccentric loading according to OIML R76.

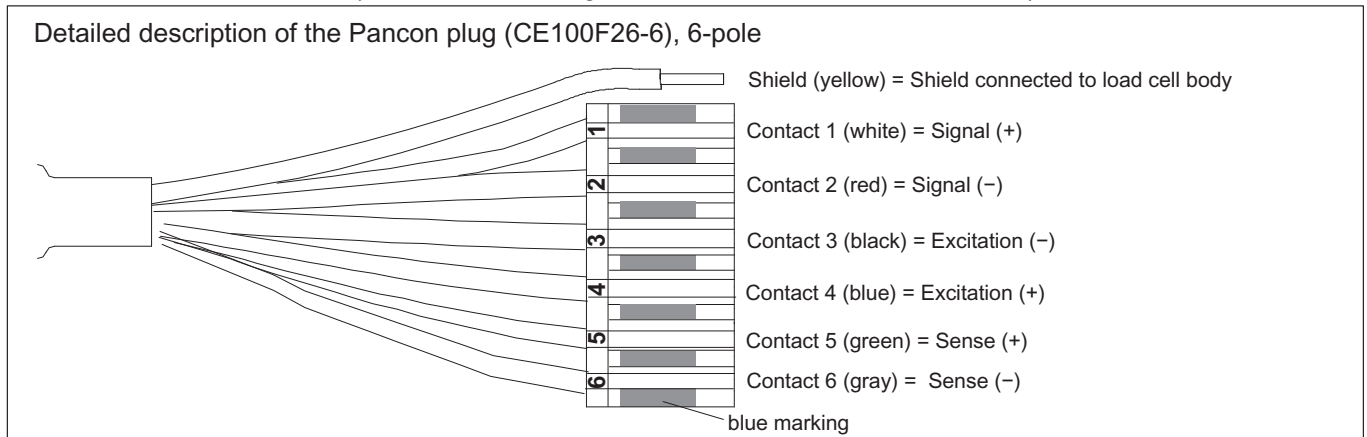
³⁾ The values for linearity deviation (d_{lin}), relative reversibility error (d_{hy}) and temperature effect on sensitivity (TK_C) are recommended values. The sum of these values remain within the cumulated error limit acc. to OIML R60.

⁴⁾ According to OIML R76.

For more specifications, see table SP4M..., accuracy class C3MR (page 2)

Wiring code

Connection with 6 wire cable (24 AWG, cable length, selectable: 1.5 m; 3 m; 6 m; 12 m)





Ordering codes:

SP4M... (Aluminum)

Type	SP4M			
Accuracy	C3-MR (OIML)		C6-MR (OIML)	
Note	Cable length 3m (6 wire)			
Capacity	Order no.		Order no.	
1kg	1-SP4MC3MR/1KG-1	-	-	-
3kg	1-SP4MC3MR/3KG-1	-	-	-
5kg	1-SP4MC3MR/5KG-1	-	-	-
7kg	1-SP4MC3MR/7KG-1	-	1-SP4MC6MR/7KG-1	-
10kg	1-SP4MC3MR/10KG-1	-	1-SP4MC6MR/10KG-1	-
15kg	1-SP4MC3MR/15KG-1	-	1-SP4MC6MR/15KG-1	-
18kg	-	-	1-SP4MC6MR/18KG-1	-
20kg	1-SP4MC3MR/20KG-1	-	-	-
30kg	1-SP4MC3MR/30KG-1	-	-	-
36kg	-	-	1-SP4MC6MR/36KG-1	-
50kg	1-SP4MC3MR/50KG-1	-	-	-
75kg	1-SP4MC3MR/75KG-1	-	-	-
100kg	1-SP4MC3MR/100KG-1	-	-	-
150kg	1-SP4MC3MR/150KG-1	-	-	-
200kg	1-SP4MC3MR/200KG-1	-	-	-

SP4M... (Aluminum), optional versions

Order no.		
K-SP4M		
Code	Option 1: Mechanical version	
N	-	
Code	Option 2: Accuracy	
C3MR	C3-MR (OIML) [not with Option 3 = 18 / 36]	
C6MR	C6-MR (OIML) [only with Option 3 = 20 / 30]	
Code	Option 3: Capacity	
1	1kg	
3	3kg	
5	5kg	
7	7kg	
10	10kg	
15	15kg	
20	20kg	
Code	Option 3: Capacity	
30	30kg	
50	50kg	
75	75kg	
100	100kg	
150	150kg	
200	200kg	
Code	Option 4: Ex protection	
N	-	
1+21	ATEX Zone 1 + 21 and FM  [only with Option 2 = C3MR]	
2+22	ATEX Zone 2 + 22 (non-conductive dust) [only with Option 2 = C3MR]	
Code	Option 5: Cable length	
1.5	1.5m [only with Option 2 = C3MR]	
3	3m	
6	6m [only with Option 2 = C3MR]	
12	12m [only with Option 2 = C3MR]	
Code	Option 6: Miscellaneous	
N	without	
A1	1.8mV/V ±0.1% / 410 Ohms ±0.2 Ohms [only with Option 2 = C3MR + Option 3 = 1] (aligned output, suitable for connection in parallel)	
A	2mV/V ±0.1% / 410 Ohms ±0.2 Ohms [only with Option 2 = C3MR / not with Option 3 = 1] (aligned output, suitable for connection in parallel)	

K-SP4M - **N** - [] - [] - [] - [] - [] - []

Not all codes can be combined with each other. Please take heed of the terms in the square brackets!

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Hottinger Baldwin Messtechnik GmbH

Im Tiefen See 45 · 64293 Darmstadt · Germany
 Tel. +49 6151 803-0 · Fax: +49 6151 803-9100

Regional Distributor



803, Riqqa Palace Building
 Al-Maktum Ave.
 P.O.Box 181802 Dubai, UAE
 Tel: +9714 - 2270081
 Fax: +9714 - 2239962
 E-mail: rcsco@eim.ae
 www.rcs-co.com

Hottinger Baldwin Messtechnik GmbH

Im Tiefen See 45, D-64293 Darmstadt, Germany
 Tel.: +49 6151 8030; Fax: +49 6151 803 9100
 E-mail: support@hbm.com www.hbm.com



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