

Single Point load cell LC aluminium

Accurate measurement results for scale production



! Benefits

- Reliable weighing through accurate measurement results
- Three different models for easy integration
- Versatile optional weighing electronics
- Design-in support from specialists



Ideal for integration in bench scales, counting scales and checkweighers: with the LC made from aluminium Single Point load cells, you can rely on the tried-and-tested quality of a leading manufacturer of industrial weighing technology. Suitable for load ranges of 5 kg to 750 kg and a platform size of up to 800 mm × 800 mm.

Verifiable load cells for a variety of industrial applications

- ! The load cells developed in Germany guarantee accurate weighing results.
All load cells are verifiable according to OIML and NTEP.
- ! **Three different models** cover a wide range of load levels – from 5 kg up to 750 kg.
- ! A comprehensive optional portfolio of **transmitters, indicators and controllers** ensures reliable continuous processing of the measurement signals as desired.
- ! Comprehensive expertise in scale production ensures **high-quality advice** for individual projects.

The right solution for all of these applications:



Weighing



Filling and
Dosing



Fill quantity
control

Technical specifications

Single Point load cell LC aluminium						
Parameters	Description	Abbr.	PR 40 C3MR	PR 43 C3MR	PR 47 C3MR	Unit
Accuracy class			0.02			%E _{max}
Minimum dead load	Lowest limit of specified measuring range	E _{min}	0			%E _{max}
Maximum capacity	Highest limit of specified measuring range	E _{max}	5 - 50	6 - 200	100 - 750	kg
Maximum usable load	Upper limit for measurements	E _{lim}	150			%E _{max}
Destructive load	Danger of mechanical destruction	E _d	300			%E _{max}
Minimum LC verification	Minimum load cell verification interval, v _{min} = E _{max} /Y	Y	15,000			
Deadload output return	Factor for deadload output return after load (DR=1/2*E _{max} /Z)	Z	3,000			
Rated output	Relative output at maximum capacity	C _n	2			mV/V
Tolerance on rated output	Permissible deviation from rated output	d _c	< 10			%C _n
Zero output signal	Load cell output signal under unloaded condition	S _{min}	0 ± 5			%C _n
Repeatability error	Max. change in load cell output for repeated loading	ε _R	< 0.0100			%C _n
Creep	Max. change of output signal at E _{max} during 30 min.	d _{cr}	< 0.0166			%C _n
Non-linearity ¹⁾	Deviation from best straight line through zero	d _{lin}	<0.0166			%C _n
Hysteresis ¹⁾	Max. difference in LC output between loading and unloading	d _{hy}	<0.0166			%C _n
Temperature effect (TK) on S _{min}	Max. change related to C _n of S _{min} per 10K in B _T	TK _{Smin}	< 0.0093			%C _n /10K
Temperature effect (TK) on parameter ¹⁾	Max. change related to C _n of C per 10K in B _T	TK _C	< 0.0117			%C _n /10K
Corner load error			0.0233			%C _n
Input impedance	Between supply terminals	R _{LC}	380 ± 38			Ω
Output impedance	Between measurement terminals	R _O	350 ± 25			Ω
Insulation impedance	Between measuring circuit and housing at 100 V _{DC}	R _{IS}	> 5,000 × 10 ⁵			Ω
Nominal supply voltage range	To hold the specified performance	B _u	≤ 12			V
Max. supply voltage	Continuous operation without damage	U _{max}	15			V
Nominal ambient temp. range	To hold the specified performance	B _T	-10 to +40			°C
Usable ambient temp. range	Continuous operation without damage	B _{TU}	-20 to +65			°C
Storage temperature range	Without electrical and mechanical stress	B _{Ti}	-25 to +70			°C
Barometric pressure influence	Influence of barometric pressure on output		< 0.007	< 0.007	< 0.007	%C _n /kPa
Nominal deflection	Max. elastic deformation under maximum capacity	S _{nom}	< 0.55	< 0.5		mm
Cable length			0.5	3		m
Material	Aluminium					
Max. platform size	In compliance with the technical data according to OIML R76		350 × 350	450 × 450 for E _{max} = 15 to 30 kg 600 × 600 for E _{max} = 50 to 100 kg	800 × 800	mm × mm
IP protection class	According to EN 60529: IP66 + IP67					

¹⁾ The data for non-linearity (d_{lin}), hysteresis (d_{hy}) and temperature effect on C (TK_C) are typical values. For OIML R60 or NTEP approved load cells, the sum of these values is within the permissible cumulative error limits.

Accuracy classes and minimum verification interval, v_{min} - PR 40

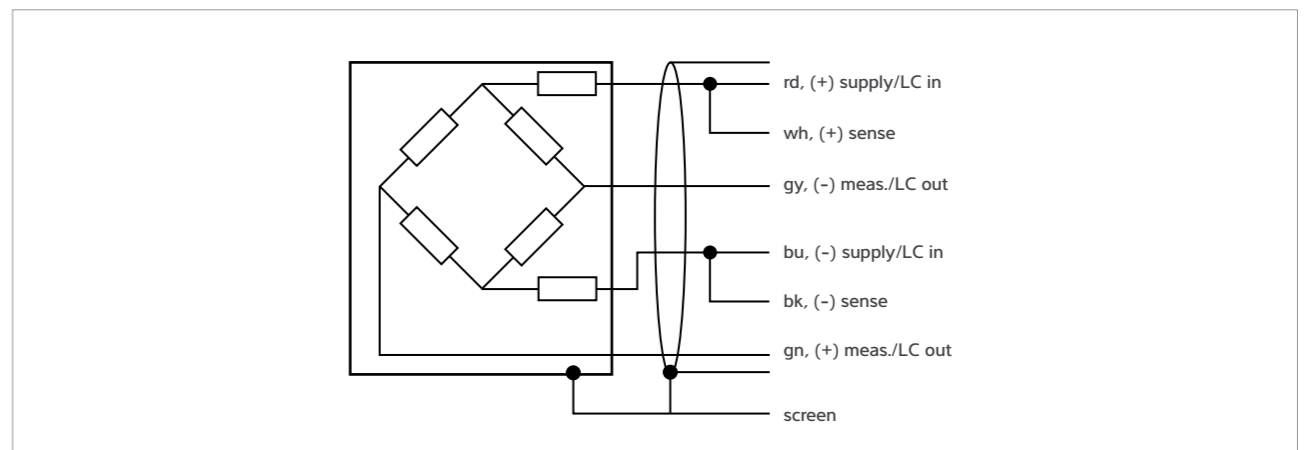
Capacity	Maximum number of verification intervals, n _{max}	5 kg	7,5 kg	10 kg	15 kg	20 kg	30 kg	40 kg	50 kg	
C3MR	3000	0,34	0,50	0,67	1,00	1,34	2,00	2,67	3,34	g
NTEP III 5000 Single	5000	0,34	0,50	0,67	1,00	1,34	2,00	2,67	3,34	g

Accuracy classes and minimum verification interval, v_{min} - PR 43

Capacity	Maximum number of verification intervals, n _{max}	6 kg	10 kg	15 kg	20 kg	30 kg	50 kg	75 kg	100 kg	200 kg	
C3MR	3000	0,40	0,67	1,00	1,34	2,00	3,34	5,00	6,67	13,34	g
NTEP III 5000 Single	5000	0,40	0,67	1,00	1,34	2,00	3,34	5,00	6,67	13,34	g

Accuracy classes and minimum verification interval, v_{min} - PR 47

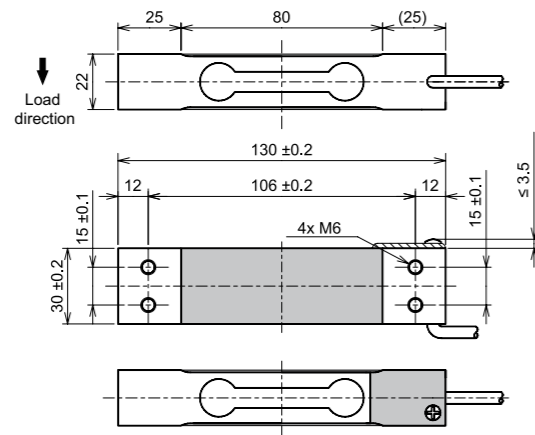
Capacity	Maximum number of verification intervals, n _{max}	100 kg	150 kg	200 kg	250 kg	300 kg	500 kg	750 kg	
C3MR	3000	6,67	10,00	13,34	16,67	20,00	33,34	50,00	g
NTEP III 5000 Single	5000	6,67	10,00	13,34	16,67	20,00	33,34	50,00	g



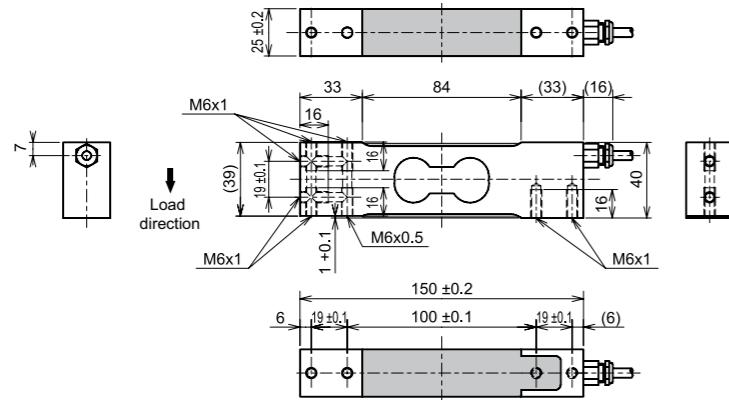
Circuit diagram

Technical diagrams

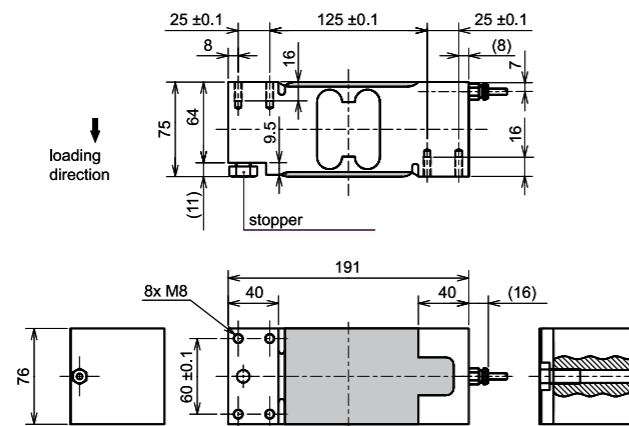
Single Point load cell LC – PR 40



Single Point load cell LC – PR 43



Single Point load cell LC – PR 47



All dimensions in mm

Ex approval



Explosion protection

Scope of validity:

Single Point load cell LC aluminium

Certificates for Single Point load cell LC aluminium

Zone	Marking	Certificate number	For
0 and 1	II 1G Ex ia IIC T6/T4 Ga	BVS 21 ATEX E 023 X IECEX BVS 21.0024X	PR 4x/xx E only
20	II 1D Ex ia IIIC T200 165°C Da		All PR 4x without E
2	II 3G Ex ec IIC T6/T4 Gc		
21	II 2D Ex tb IIIC T110°C Db		

Ordering information

Single Point Wägezelle LC – PR 40

Typ	Order number
PR 40/5 kg C3MR	9409 240 07005
PR 40/7,5 kg C3MR	9409 240 07007
PR 40/10 kg C3MR	9409 240 07010
PR 40/15 kg C3MR	9409 240 07015
PR 40/20 kg C3MR	9409 240 07020
PR 40/30 kg C3MR	9409 240 07030
PR 40/40 kg C3MR	9409 240 07040
PR 40/50 kg C3MR	9409 240 07050

Single Point load cell LC – PR 43

Typ	Order number
PR 43/6 kg C3MR	9409 243 07006
PR 43/10 kg C3MR	9409 243 07010
PR 43/15 kg C3MR	9409 243 07015
PR 43/20 kg C3MR	9409 243 07020
PR 43/30 kg C3MR	9409 243 07030
PR 43/50 kg C3MR	9409 243 07050
PR 43/75 kg C3MR	9409 243 07075
PR 43/100 kg C3MR	9409 2430 7110
PR 43/200 kg C3MR	9409 2430 7120

Other accuracy classes and EX

Typ	Order number
PR 4x/xx kg C6	9409 24x 06xxx
PR 4x/xx kg III 5000 S	9409 24x 0Cxxx
PR 4x/xx kg C3MRE	9409 64x 07xxx
PR 4x/xx kg C6E	9409 64x 06xxx

Single Point load cell LC – PR 47

Type	Order number
PR 47/100 kg C3MR	9409 247 07110
PR 47/150 kg C3MR	9409 247 07115
PR 47/200 kg C3MR	9409 247 07120
PR 47/250 kg C3MR	9409 247 07125
PR 47/300 kg C3MR	9409 247 07130
PR 47/500 kg C3MR	9409 247 07150
PR 47/750 kg C3MR	9409 247 07175

Additional accuracy classes are available upon request.

The products and solutions presented in this data sheet make major contributions in the following sectors:



The technical data given serves as a product description only and should not be understood as guaranteed properties in the legal sense.

Specifications subject to change without notice.
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