ATEX-Approved Load Cell Transmitter with HART Communication

FEATURES

- ATEX approved Ex IIC
- Two-wire 4 mA–20 mA output with error signaling
- HART 7 Communication for
  - System diagnostics
  - Process Data
- IP67 protection level (when mounted in load cell)
- M12 connector or fixed cable connection through cable gland

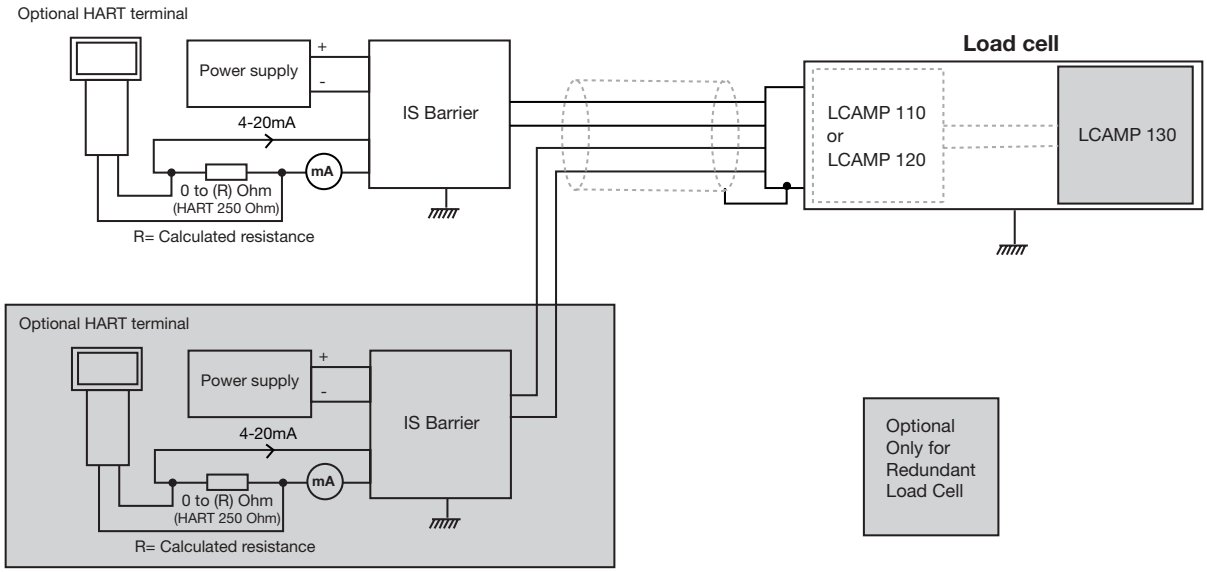
APPLICATIONS

- Cranes
- Winches
- Mooring
- Chain stoppers
- Tension

DESCRIPTION

Load cell transmitter for off-shore and harsh industrial applications. The transmitter is field-replaceable without re-calibration of the transmitter or the load cell. HART Communication is available for diagnostics and process data. The load cell transmitter is designed to be embedded in the load cells and is approved for use in hazardous areas.

SYSTEM BLOCK DIAGRAM



BLH NOBEL
A VPG Brand

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SPECIFICATIONS

PARAMETER	VALUE		
APPROVALS			
ATEX intrinsic safety	EN 60079-0, EN 60079-11, EN 50303 Ex ia I Ma, Ex ia IIC T4 Ga, Ex ia IIIC T79°C Da		
U_i	30 V		
P_i	0.7 W		
I_i	100 mA		
C_i	57 nF (≤66 nF including cable)		
L_i	4.4 µH		
IECEx intrinsic safety	IEC 60079-0, IEC 60079-11		
Electromagnetic compatibility (EMC)	EN 61326-1		
Emission	CISPR 11 class B		
ENVIRONMENTAL CONDITIONS			
PARAMETER	**MIN.**	**TYP.**	**MAX.**
Environmental protection / IP rating (assembled load cell)		IP67	
Operating Temperature (T_{amb})	−45°C −49°F		+70°C +158°F
In intrinsic-safe application (T_{amb})	−45°C −49°F		+70°C +158°F
ANALOG OUTPUT			
Current	3.2 mA		22.8 mA
Rated output (RO)		20 mA	
Zero		4 mA	
SYSTEM PARAMETERS			
Accuracy	See load cell datasheet		
Response time: Fast mode		5 ms	
Response time: HART® compliant mode		50 ms	
Noise: Fast mode		0.05% of RO	
Noise: HART® compliant mode		0.02% of RO	
Supply voltage (E): Standard application	E = 0.0236*R+10.5 V	24 V	42 V
Supply voltage (E): Intrinsic-safe application		24 V	30 V
Load impedance (R): Standard application	0 Ω		R = (E-10.5)/0.0236 Ω (HART max. 600 Ω)
Load impedance (R): HART® communication	230 Ω	250 Ω	
Insulation resistance	4 GΩ		
LOAD CELL STRAIN GAGE			
Impedance		2000 Ω	
ATEX CONDITIONS			
Cable length (L) for Ex ia IIC			L = 9.0/(nF/m)[1] m
Cable length (L) for Ex ia IIB			L = 503/(nF/m)[1] m
Insulation test		500 V_{RMS}	
CONNECTOR PIN-OUT / WIRES COLOR CODE			

M12 Connector	Fixed cable
1: LCAMP 130 current return 2: LCAMP 130 current output 3: LCAMP 110 current output 4: LCAMP 110 current return	Yellow: LCAMP 130 current return Green: LCAMP 130 current output White: LCAMP 120 current output Brown: LCAMP 120 current return

[1] Cable capacitance value per meter in nF

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