

RIL160

IMMERSION LEVEL TRANSMITTER

LEVEL CONTROLS



The RIL160 submersible level transmitter has been designed for level measurement in contact with the medium in harsh operating conditions. It offers an accuracy of 0.5 %FS and with an ingress protection of IP 68, is suitable for permanent level measurements up to 120 m water column.

Features

- ❑ Measuring ranges from 1 mH₂O to 120 mH₂O
- ❑ IP68, Submersible level measurement
- ❑ High Density Muddy Liquid level transmitter
- ❑ Accuracy: $\pm 0.25\%$ FSO(Typ.)
- ❑ Calibrated and temperature compensated
- ❑ Stainless steel pressure sensor
- ❑ Output 4...20mA, DC1...5V, DC 0.5...4.5V, MODBUS RTU

Application

- ❑ Sewage level measurement
- ❑ Ground water monitoring
- ❑ Domestic water tanks
- ❑ Rain spillway basin



Technical data

Measuring range

Nominal pressure [mH ₂ O]	2	4	5	8	10	12	15	20	25	30	40	50	60	80	100	120
Overpressure [mH ₂ O]	3	6	7	12	15	15	20	30	35	40	50	60	70	100	110	130

Performance

Accuracy*	0.25%FS@25°C(Typ.) 0.5%FS@25°C(Max.)	*Linearity (best straight line) + Hysteresis + Repeatability
Operating Temperature	-10 to 50°C	
Compensated Temperature Range	-10 to 50°C	
Temp. coeff - Zero	± 0.75 [Typ.], ± 1.5 [Max.]	
Temp. coeff - Span	± 0.75 [Typ.], ± 1.5 [Max.]	
Vibration	20 g RMS(20 to 2000Hz)	
Shock	100 g(10ms)	
Cycles	10x10 ⁵	
Long Term Stability	0.2 %FS	

Electrical @25°C

Output signal / Supply	2-wire 4...20mA / V _S = 9... 30VDC
	2-wire HART+4...20mA / V _S = 12... 30VDC
	3-wire 1...5VDC / V _S = 9... 30VDC
	3-wire 0.5...4.5VDC / V _S = 9... 30VDC
	3-wire 0...10VDC / V _S = 15... 30VDC
	3-wire 0.5...4.5VDC / V _S = 5VDC
	4-wire I2C / V _S = 3.3...5VDC
	4-wire MODBUS RTU / V _S = 9...30VDC
Insulation Resistance	100 M Ω @100VDC
EMC Test	IEC61000-6-2/IEC61000-6-3
Reverse polarity protection	No damage - no function

Physical Specifications

Housing	316 stainless steel
Diaphragm	316L stainless steel
Protection cap	Stainless steel, POM-C
Cable sheath	PUR, PE, PTFE
Oil Filling	Silicone oil
Protection	IP68
Weight	~1.5kg (without cable)

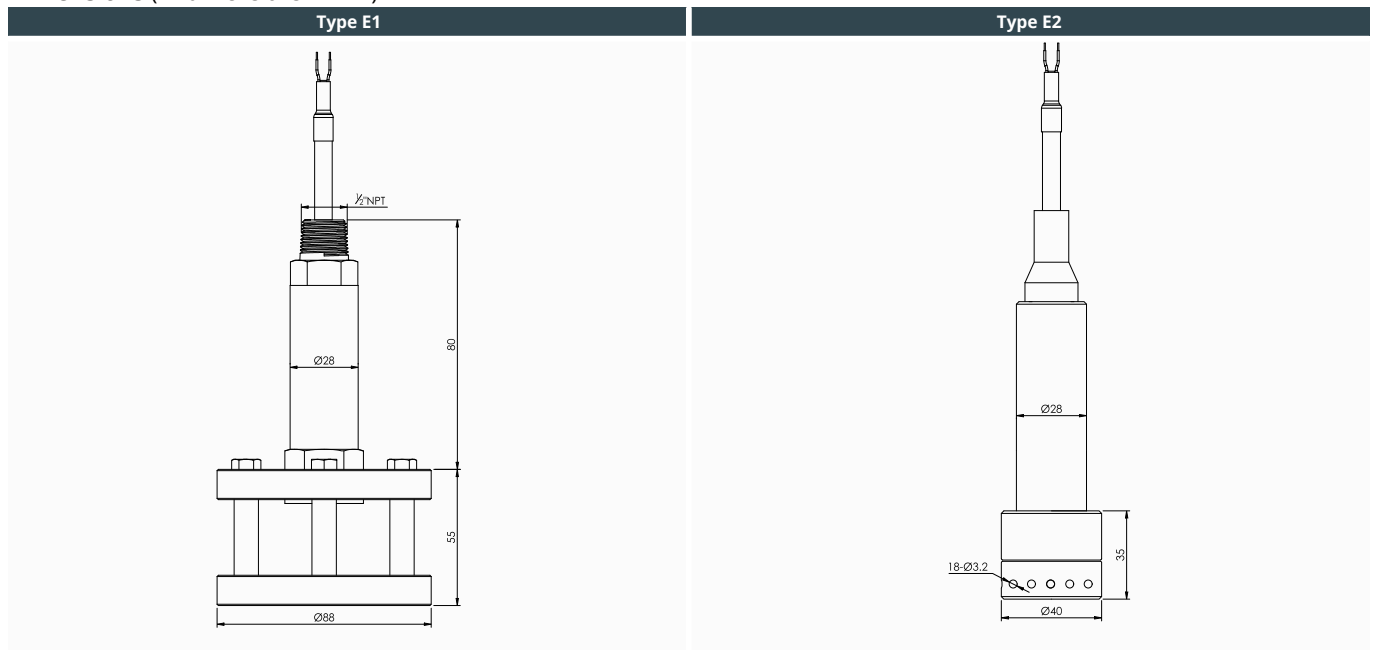
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Dimensions (All dimensions in mm)



Electrical connections

Cable outlet	4...20mA	1...5VDC	0.5...4.5VDC	RS485
	2-wire	3-wire	3-wire	4-wire
+Vcc	Red	Red	Red	Red
OUT/RS485/SDA	Green	Yellow	Yellow	Yellow
GND	NA	Green	Green	Green
RS485 B/SCL				Blue

Ordering code

Model	Type	Range	Type	Output	Cable	Cable length	Diaphragm	
RIL160	E1	01 1mH ₂ O	G Gauge	42 4...20mA	C1 PUR	XXX Cable length in m	S SUS316LStainless steel	
		E2		02 2mH ₂ O				15 DC1...5V
		03 4mH ₂ O		04 DC0.5...4.5V	C3 PTFE			
		04 5mH ₂ O		25 DC0.5...2.5V				
		05 8mH ₂ O		05 DC0...5V				
		06 10mH ₂ O		01 DC0...10V				
		07 12mH ₂ O		10 DC1...10V				
		08 15mH ₂ O		H2 4...20mA+HART				
		09 20mH ₂ O		IC I2C interface				
		10 25mH ₂ O		R4 MODBUS RTU				
		11 30mH ₂ O						
		12 40mH ₂ O						
		13 50mH ₂ O						
		14 60mH ₂ O						
		15 80mH ₂ O						
		16 100mH ₂ O						
		17 120mH ₂ O						
		99 Custom						

Accuracy	Label
A1 0.1%FS	S Standard
A2 0.25%FS	N Neutral packing
A3 0.5%FS(Standard)	C Custom label