



Level measurement



Type: Hydrolog® HLF4

Data logger with data remote transmission
for water level recording

Technical information TI02.20

In brief



Application

- Water and waste water sector
- Environmental technology
- Process industry

e.g. for

- Long-term monitoring of water levels at hydropower stations
- Alarming at high water
- Weir control
- Stockpiling management of storage container

Main features

- Multiple power supply options
 - Long-term lithium battery 19/35Ah
 - Li-ION rechargeable battery 10Ah
 - DC supply 7...32V
 - Photovoltaic module (PV module)
- Up to 5 sensors for up to 11 measurands
 - 2x sensor current 0/4...20mA
 - 2x 4-channel multiparameter sensor RS485 Modbus®-RTU
 - 2x sensor supply 16,6V / 30mA
 - 2x sensor supply 6,7V / 100mA
 - Digital input / Impulse counter
- 800.000 measurement values
- On site operation per Bluetooth 5.0 LE
- Data remote transmission per 4G/LTE, 2G GSM/GPRS
- Alarmmanagement and remote alarming
- Measurement verification by compare sensor
- Highest data security
- Installation on water level tubes from 2"
- Flood protected up to 3m water column
- Temperature range -20°C to +60°C

Description

The device is an electronic data logger for water level tube installation, with integrated data remote transmission 4G/2G, for autonomous recording of different measurands and with Bluetooth 5.0 LE interface for a simple cable-free on-site operation per mobile App.

A high-efficiency power management allows dependent on supply and settings, the long-term application for more than 10 years, as well as a fast measuring operation mode with short-term data transmission.

The robust design and the high-quality workmanship turns the device into a very high quality product. A captive laser marking of the type label ensures the identifiability throughout the entire lifetime of the device.

Obviously is the optional marking of a measurement point designation resp. TAG of course also per laser marking. A customer specific configuration resp. preset is also optionally available like a factory certifications for drink water suitability.

ACS-CONTROL-SYSTEM
knowledge and systems

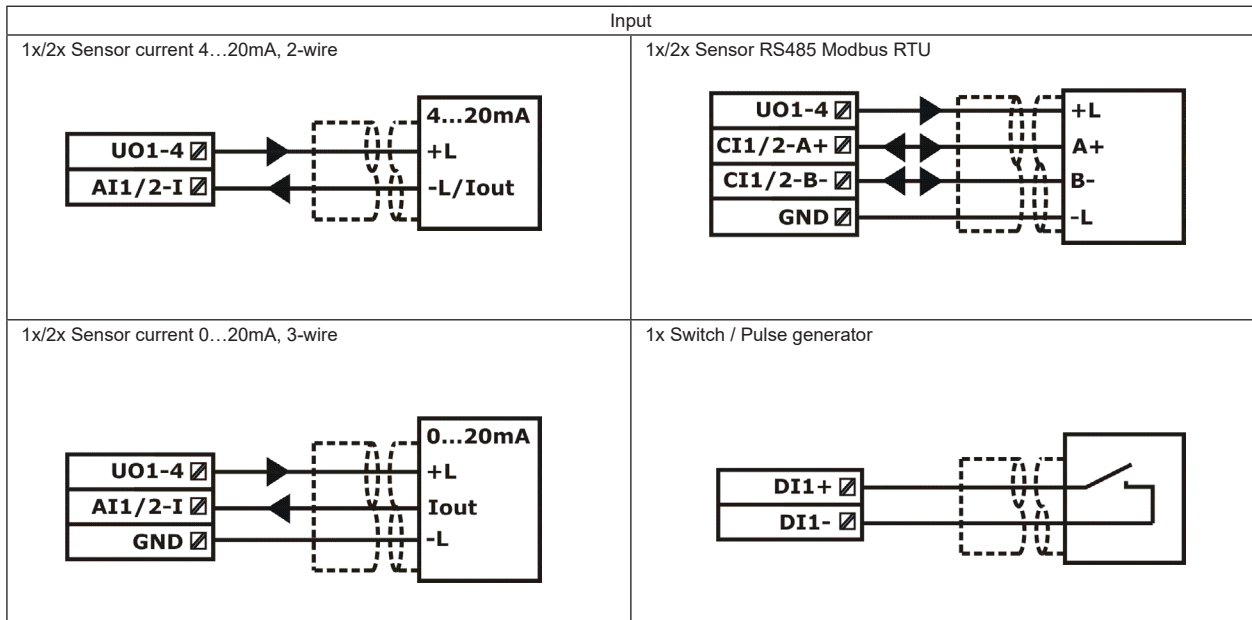
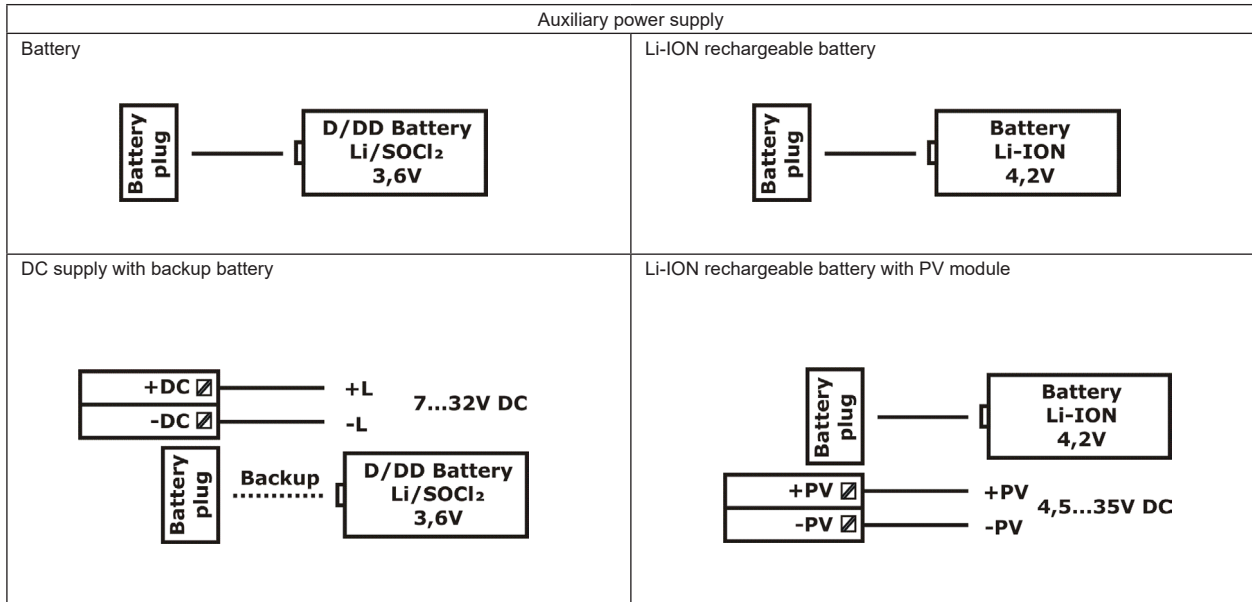


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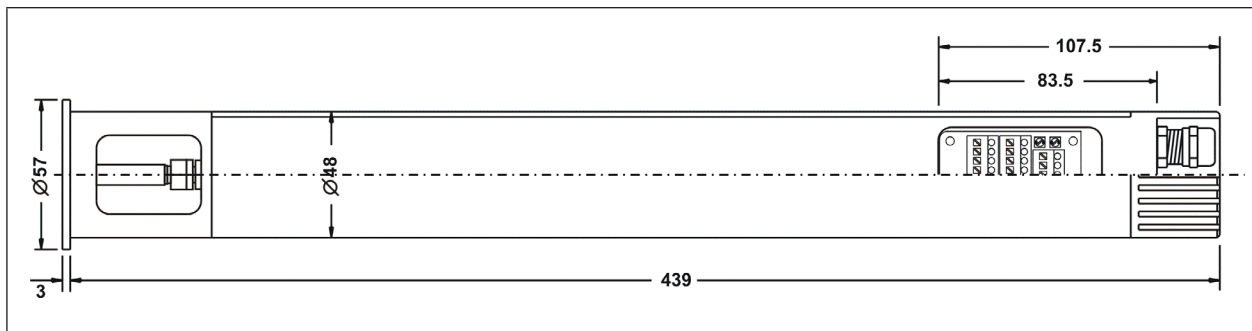
Technical Data

Auxiliary power	
Battery B1	Lithium / 3,6V-19Ah
Battery B2	Lithium / 3,6V-35Ah
Battery rechargeable A1	LiION / 4,2V-10Ah
Supply voltage DC	7...32VDC / \leq 350mA
PV module	4,5...35VDC / \leq 1A
Input COM CI1 / CI2	
Interface	RS485, bidirectional / Modbus®-RTU / 9600 Baud (4800...38400 Baud)
Input resistance	96k Ω
Input analogue AI1-I / AI2-I	
Reference conditions	EN/IEC 60770-1: Characteristic deviation – Limit value adjustment 15...25°C / 860..1060kPa / 45..75%r.F. / ton240s / battery 35Ah
	Characteristic deviation = Nonlinearity + Hysteresis + Reproducibility FSI = Full Scale Input = Nominal measuring range
Operating range	FSI 0...28mA / Ri 27R
Resolution	FSI 16 Bit
Characteristic deviation	\leq \pm 0,05% FSI
Temperature deviation	\leq \pm 0,1% FSI / 10K
Long term deviation	\leq \pm 0,05% FSI / year
Input digital DI1	
Operating range	\leq 20kOhm / \leq 1kHz
Transmitter power supply	
Output voltage OU1 / UO2	16,6V \pm 0,3V (0mA) / 15,9V \pm 0,3V (30mA) / 0...30mA, max. 40mA
Output voltage UO3 / UO4	6,7V \pm 0,2V (0mA) / 6,6V \pm 0,2V (100mA) / 0...100mA, max. 300mA
Interface Bluetooth	
Version	Bluetooth 5.0 LE (2Mbit/s, Advertising Mode 2s)
Transmit power	\leq 0,1W
Range	Outdoor max. 200m / Indoor max. 40m
Interface 4G/2G	
Version	4G LTE Cat. 1 (B3, B8, B20) 2G EDGE, GSM, GPRS (900MHz/1800MHz)
Transmit power	4G \leq 0,2W 2G \leq 2W
SIM	Internal SIM + external Micro-SIM
Antenna connection	Connector SMA / 50 Ohm
Data memory	
Memory size	8MB, \geq 800.000 measuring values
Clock	
Cycle accuracy	\leq \pm 1 Minute / Monat
Environmental conditions	
Environmental temperature	-20°C...+60°C
Protection level	IP68 [\leq 3m/ \leq 0,3bar] (EN/IEC 60529)
Climatic classification	4K4H (EN/IEC 60721-3-4)
Shock classification	15g [11ms] (EN/IEC 60068-2-27)
Vibration classification	4g [10...2000 Hz] (EN/IEC 60068-2-6)
EM compatibility	Operation device class B / Industrial range (EN/IEC 61326)
MTTF	258 years
Weight	0,9kg
Materials	
Process wetted	PA, aluminum, PUR, brass, nickel, silicone, NBR

Electrical connection



Dimensions (mm)



Order code

	Type	HLF4 Standard
	Approval	S Standard
	Enclosure type	R2 Tube enclosure 2" - Ø48mm YY others
	Electronic – Supply	B1 Battery lithium 19Ah / DC supply 7...32V B2 Battery lithium 35Ah / DC supply 7...32V A1 Li-ION rechargeable battery 10Ah / DC supply 7...32V / PV module YY others
	Electronic – Function	0 without 4 4G (LTE Cat-1) / 2G (EDGE, GSM, GPRS) Y others
	Electronic – Input	M 2x analogue 0/4...20mA / 2x interface RS485 / 1x digital-In
	Tariff	0 Separate billing S1 ACS Port S Standard (1 channel, 5 000 measuring values/month), 3 years S2 ACS Port S Premium (1 channel, 5 000 measuring values/month), 3 years M1 ACS Port M Standard (2 channels, 50 000 measuring values/month), 3 years M2 ACS Port M Premium (2 channels, 50 000 measuring values/month), 3 years L1 ACS Port L Standard (4 channels, 300 000 measuring values/month), 3 years L2 ACS Port L Premium (4 channels, 300 000 measuring values/month), 3 years X1 ACS Port XL Standard (8 channels, 600 000 measuring values/month), 3 years X2 ACS Port XL Premium (8 channels, 600 000 measuring values/month), 3 years
	Additional options	-ML Measurement point designation / TAG – Laser marking -WT Factory certification – drink water suitability -KF Configuration / Preset

Hydrolog® HLF4 S M S



fill level



water level



pressure



temperature



flow



visualization



signal converter



sensoric



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knowhow with system



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