

SMARTsens IOextension

10 Universal IOs for connecting analog and digital sensors

SMARTsens IOextension can be combined with CubelIO to extend to additional inputs. The IOextension will be automatically linked to the SMARTbox CubelIO – it requires no SetUp only wiring. In common with SMARTbox CubelIO, the system can be extended to maximum 40 digital inputs.



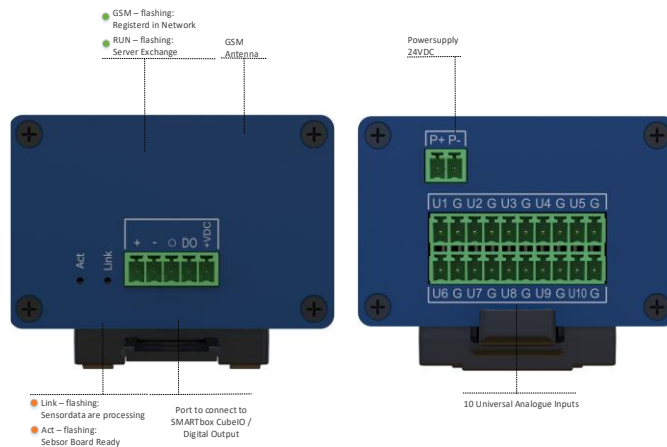
Keyfeatures

- 10 Flex Inputs (4...20mA, 0...10V, 0...5V, PT1000, Alarm switch, digital Signals)
- DIN Rail Switchboard Installation
- Extend the SMARTbox CubelIO channels



SENSORS

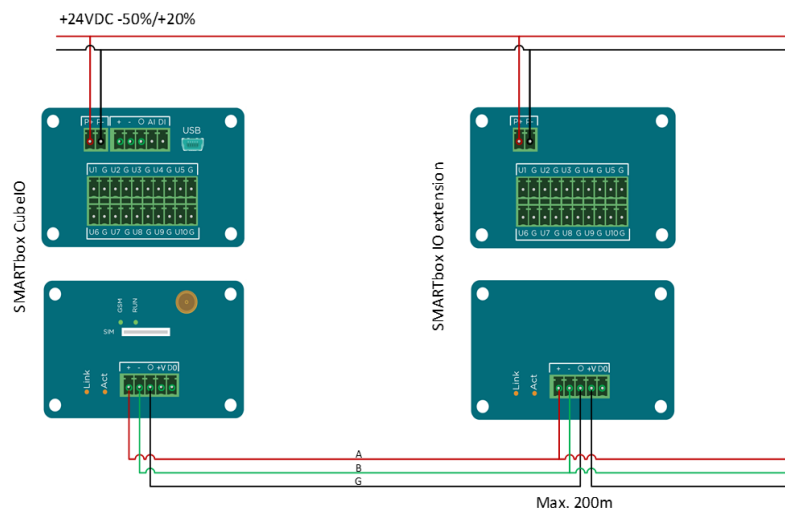
Layout



Bus Wiring with Cubelo

Powersupply

Bus-wiring



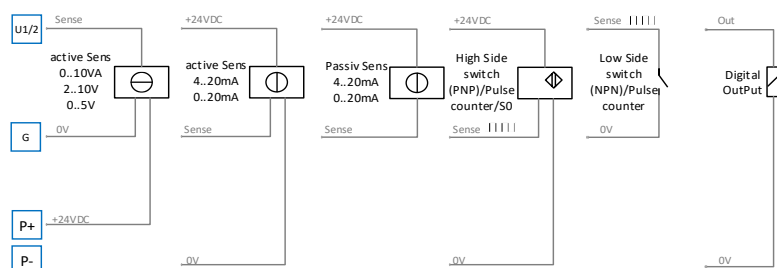
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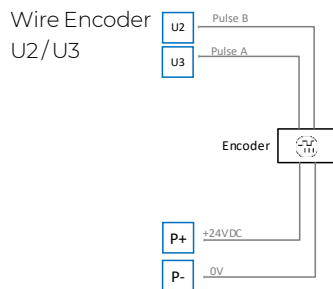
U1/2

- Digital input, fast (low-side = NPN, GND): NO / NC
- Digital input, fast (high-side = PNP, 10...24 VDC): NO / NC
- Current input, slow, fast: 0...20 mA / 4...20 mA (res.: 0.01 mA)
- Voltage input, slow, fast: 0...10 V / 2...10 V / 0...5 V (res.: 0.01 V)
- Energy measurement (S0 interface): EN 62053-31, Class A only
- Digital output: 24 VDC = $U_{in} / \max. 20 \text{ mA}$ (high-side switch)
- Max. Sensor Supply U1/2/3/4/5/6 - 24VDC, max. 200 mA

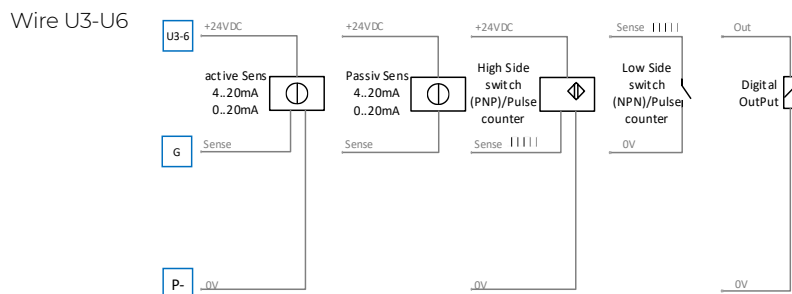
Wire U1/U2



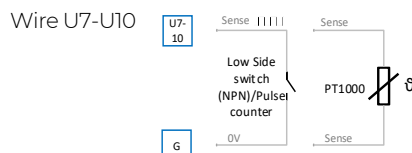
- U2/U3
- Encoder: max. 1 unit @ input U2 + U3 (max. 5 kHz per line A/B)
 - If the encoder is set: U2 and U3 are not available for other sensor types



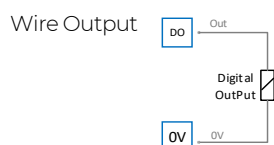
- U3/4/5/6
- Digital input, fast (low-side = NPN, GND): DIN NO / DIN NC
 - Digital input, fast (high-side = PNP, 10...24 VDC): DIN NO / DIN NC
 - Current input, slow: 0...20 mA / 4...20 mA (res.: 0.01 mA)
 - Digital output: 24 VDC = U_{in} / max. 20 mA (high-side switch)



- U7/8/9/10
- Temperature: PT1000 (-120°C...160°C, Res.: 0.01K, Acc.: $\pm 0.5K$ f.s.)
 - Digital input, slow (low-side = NPN, GND): DIN NO / DIN NC



Output Digital Output: 24VDC = U_{in} / max. 500mA (Low-Side-Switch)



- LED
- Run IO Extension is under Power
 - GSM none
 - Act Flashing: Sensor Board Power
 - Link Flashing: Sensor Board is ready to process data



General

Dimensions	70 x 70 x 45 mm
Weight	228g
Supply	Nominal voltage range: 12-30 VDC, +/-10% Maximum (average) continuous supply current: 300 mA at 12 V, 150 mA at 24 V
Mounting	DIN Rail
Operate T/H	-40°C ... 85°C / Max. 85%
Storage T	-40°C ... 85°C / Max. 85%
IP Klasse	IP20
Approval	CE
Conformity	EMC EN 301489-1 v2.2.0 General Part EN 301489-52 v1.1.0 DIN EN 61326-1 - 2018-09 Safety DIN EN 61010-1:2020-03; VDE 0411-1:2020-03 Cybersecurity EN 18031:2024
Warranty	1 year

The information and instructions contained in this datasheet have been compiled with the greatest possible care. However, we accept no liability for any errors, inaccuracies, or omissions in this datasheet. The use of the datasheet is at your own risk.