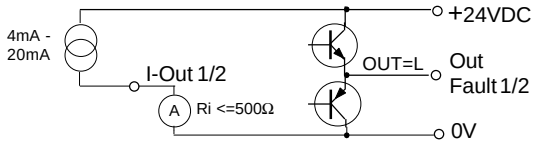
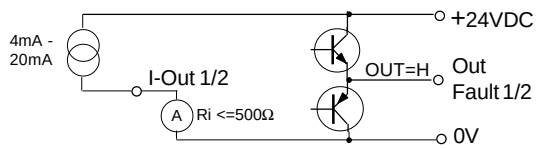
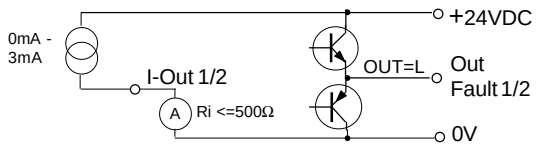
ISO 9001:2008

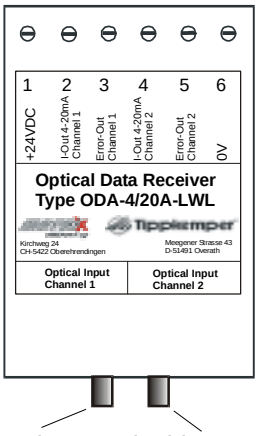
Data Processing Receiver for pressure sensors with current output 4 - 20mA, PNP type
Type ODA-4/20A-LWL

- For data processing in composition with pressure or temperature sensors over POF
- Contains 2 independent receivers
- Simple connection of synthetic fibre optics (POF) without special tools
- Short response time and very high sensitivity
- 2 x Current outputs 4mA-20mA and 2 x Fault indication outputs

Technical Data / Type	ODA-4/20A-LWL
Number of receivers	2
Minimum pulse width at the inputs	>= 2us
Minimum optical input power	>= 0.2uW (LWL, L:10m, D:1mm; pulse with >=2us)
Response time, current outputs	<= 5.5ms
Response time, fault indication outputs	100ms
Supply voltage	20VDC to 28VDC
Current consumption	100mA
Maximum power dissipation	1.4W
Analog current outputs	2 x PNP-current outputs, 4mA to 20mA
Tolerance current output signal	+-2.5% at 4mA, +-2% at 20mA
Ripple on the output current	<2%
External load resistance	RL: 0Ω to 500Ω
Fault indication outputs	2 x Push-Pull, short circuit protected, maximum 20mA
Output impedance, fault indication output	maximum 150Ω, RL: 1500Ω to 10kΩ
Inputs	2 x Optical for synthetic fibre optics, 2.2mm, core 1mm
Housing	Synthetic (Makrolon / Polystyrene)
Enclosure rating, at EN 60529	IP20
Mounting	On DIN rail at EN 50022 or with 2 screws
Ambient working temperature T_{amb}	-20°C < T_{amb} < +50°C
Electrical connection	Terminal screws, 1/4-36UNS-2B
Applicable POF's	Outside diameter: 2.2mm / Core diameter: 1mm
POF length	Dependent on type and structure of the used POF
Optical input connection	POF-connection for PHOENIX Q-FSMA connectors (Phoenix Article-No.: 18 85 99 4)
Accessories (not included)	- POF, single or multiple faser, D2.2mm/1mm - Q-FSMA POF-connector
Options	- ODA-4/20A-LWL S131: Fault indication outputs only active (High) when battery OK.

Function: Pressure 0 - 25 Bar Battery OK: - Current out: 4mA to 20mA - Fault out: Low	**Current out 1 or 2 = 4mA-20mA** **Fault out 1 or 2 = 0V** 
Pressure 0 - 25 Bar Battery discharged: - Current out: 4mA to 20mA - Fault out: High	**Current out 1 or 2 = 4mA-20mA** **Fault out 1 or 2 = +24V** 
No optical input signal or no fibre optic connected: - Current out: <= 3mA - Fault out: Low	**Current out 1 or 2 < 3mA** **Fault out 1 or 2 = 0V** 

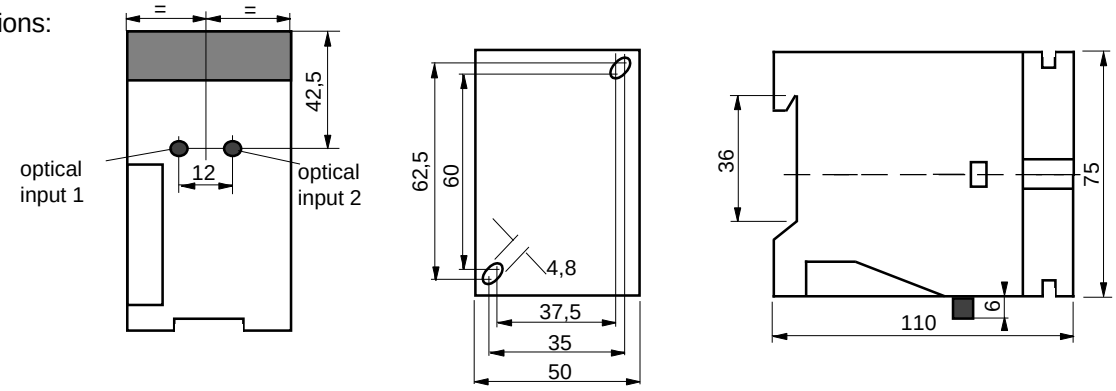
Dimensions ODA-4/20A-LWL:



1	+24VDC
2	Current output 1, 4-20mA
3	Fault output 1
4	Current output 2, 4-20mA
5	Fault output 2
6	0V

Optical input channel 1 Optical input channel 2

Dimensions:



Operating Manual / EC - Declaration of Conformity:

General mounting prescriptions:
Do not exceed the maximum ratings. The electrical connections must be exactly as shown in the connection diagram. For highest noise immunity use twisted pair cables with shielding. The cable shield should be connected to the protection earth, large-surfaced. Connection cables must not be installed parallel to high voltage cables.

Function
The optical data processing unit type ODA-4/20A-LWL is applicable with pressure and temperature sensors . The optical data processing unit must be mounted out of the high tension field. He contains 2 independent data receivers. Each receiver has an analog current output 4mA to 20mA and a fault indication output

	Battery	I-Output	Fault Output
Pressure: 0-25 Bar	OK	4-20mA	LOW
Pressure: 0-25 Bar	Low	4-20mA	HIGH
No input signal:	--	<=3mA	LOW

Current outputs 4-20mA
PNP type outputs. The load must be connected from the output to 0V and must be <= 500Ω.

Fault indication outputs
Push-pull type outputs. Maximum load 20mA. Connectable at +24VDC or 0V.

Mounting the POF
For mounting the POF a quick connector type Q-FSMA-KT (Phoenix No.: 1885994) will be required. (Not included in the package). POF specifications: Core diameter: 1mm, Cladding diameter: 2.2mm. Fix the connector Q-FSMA-KT at the data processing unit ODA-4/20A-LWL . Cut the POF with the special cutter carefully and push them trough the quick connector inside the optical receiver set. Rigid fasten the locking nut at the quick connector. The applicable length of the POF is dependent of there type and structure. The functional safety of the data receiver is given by the working up of the optical fibres. Specially near the sensor, the fibre optics must not be buckled or laid with a small radius. Buckled or bad laid fibre optics results to a strong decrease of performance. Avoid performance decreasing and failures caused by wear, by a functional mounting of the fibre optics.

Maintenance
Protect the fibre optic adaptor at the data receiver and the optical fibres against pollution. Please set up the protection caps if no optical fibres are connected. If the fibre optic adapter is contaminated, clean with alcohol. Do not use aggressive solvents. Plastic optical fibres can be destroyed by strong solvents. Equipment must only be repaired or serviced by the manufacturer.

Safety Informations
The data receiver ODA-4/20A-LWL must not be used for Accident-Prevention! When installing and operating with the sensor, it is necessary to take into consideration the relevant international and other national regulations.
Standards met:
EN 61000-4-4, EN 61000-4-6, EN 60529, EN 60950. Machine directive: 2006/42EC. EMC: 2004/108/EC. RoHS: 2011/65/EU.

General Notes, disposal
We reserve the right to modify our equipment. Our equipment is designed such way, that it has the least possible adverse effect on the environment. It neither emit or contain any damaging or siliconized substances and use a minimum of energy and resources. No longer usable or irreparable units must be disposed of in accordance with local waste disposal regulations.

EC-Declaration of Conformity
The conformity of the devices with the EC standards and directives and the observation of the Quality Safety System ISO 9001:2008, declares:

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