sigrist
photometer

ColorMeter Ex PM 40

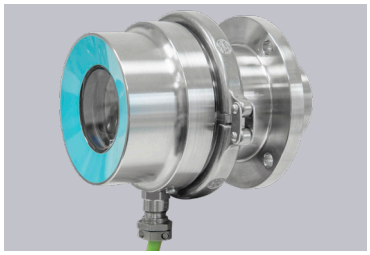
In-line absorption measuring device for potentially explosive atmospheres

Applications
- Concentration determination during chemical processes
- Colour measurement of mineral oils (ASTM, Saybolt)
- Colour measurement in chemical processes (APHA-Hazen)
- Colour measurement in spirits production

Industries
- Petrochemical industry
- Refineries
- Chemical industry
- Spirits producers / distilleries

Advantages
- Innovative device design for simple maintenance
- Easy and modern operation
- Simple customisation to customer requirements
- Wide range of applications

Innovationen mit echtem Nutzen



Innovative device design

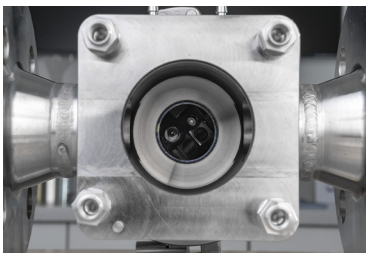
The ColorMeter Ex PM 40 was developed for the demanding requirements in the industrial environment. The innovative concept of transmitter and reflector makes installation, operation and maintenance simple.

- No electrical connection between the two parts of the appliance necessary.
- Smaller installation size compared to similar measuring devices
- One-sided access to the electronics
- Integrated equalisation in the device
- Depending on the version, the device can measure up to 3 colours or wavelengths
- Individual layer length adjustment for an optimum measuring range and sensitivity
- Integrated coolant connection for high temperatures
- With special measuring cells up to 100 bar medium pressure

Lab in Process

The process is continuously monitored with the ColorMeter Ex PM 40.

- Direct comparison with laboratory measurements possible
- Various colour scales can be used



Integrated operation and communication

The photometer has an integrated display with a contemporary user interface.

- Simple operation via touchscreen or point-to-point connection to explosion-protected smartphone or tablet without additional operating device
- Visualisation of measured values and status information using colours
- Use of various communication modules possible, standard is 0/4...20 mA and Modbus RTU

High flexibility

With the ColorMeter Ex PM 40, we offer a variety of measuring cells that are manufactured to customer specifications. We can provide the necessary certificates.

- Selection of different process connections in DN, ANSI, JIS
- Choice of different materials such as Hastelloy, stainless steel, PVDF

Extract of technical details

Measuring principle	Absorption
Light source	1-3 LED, configurable 254 ... 800 nm
Measuring span	0 ... 3 E
Measuring ranges	Individually configurable
Resolution	0.001 E
Protection degree	IP66
Ex Type	Ex db IIC T3/T4/T5/T6 Ga/Gb b

Details and technical data:

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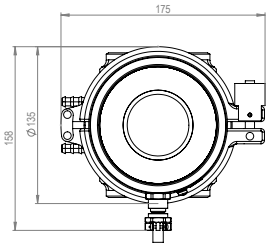
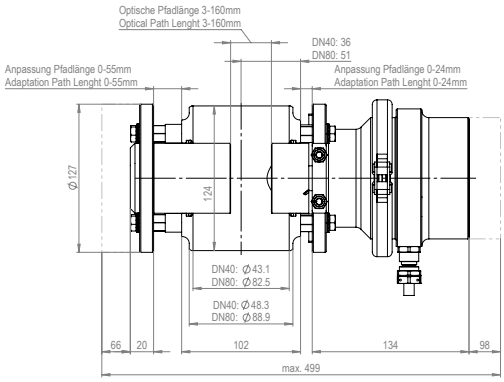
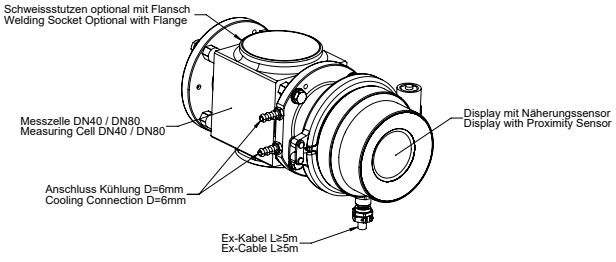
ColorPlus Ex PM 40

Technical data

Measurement	
Measuring principle	Absorption
Light source	1–3 LED, configurable 254 … 800 nm
Measuring span	0 … 3 E
Measuring ranges	Individually configurable
Resolution	0.001 E
Detection limit	0.001 E
Accuracy (Reproducibility)	± 2 % from the measured value in E, at least ± 0.01E
Units	E, E/m, APHA-Hazen, EBC, Saybolt, ASTM
Photometer	
Operating voltage	24 VDC +/– 10%
Power consumption	4 W
Sample pressure	max. 10 MPa (100 bar), depending on measuring cell Standard 25 bar others according to order
Medium temperature	–20 … 195°C
Ambient temperature	–20 … 60°C
Ambient humidity	0 … 100% r.H. non-condensing
Material	General: – Housing: Stainless steel 1.4404 / 316L & 1.4462 / 318LN – Display: borosilicate glass Parts in contact with the medium: – stainless steel 1.4404 / 316L & 1.4571 / 316Ti – Windows: Sapphire Seals: – FPM/FKM, others according to order
Dimensions	– Photometer: 174x135x170 mm – Reflector: ø127x86 mm
Weight	ca. 7.4 kg (without measuring cell)
Protection class	IP66
Display	Display with 2.4» diagonal
Operation	Using proximity sensor and mobile device via WLAN
Wi-Fi module	WLAN according to IEEE 802.11 b/g/n
Conformities	CE, ATEX, IECEx
Ex Type	Ex db IIC T3/T4/T5/T6 Ga/Gb Temperature class depends on medium temperature CE 0158 Ex II 1/2G Ex db IIC T3/T4/T5/T6 Ga/Gb
Communication modules	
Standard	6 Configurable inputs/outputs Outputs: 0/4 … 20mA, Digital Inputs: Digital Modbus RTU
PoE	Ethernet LAN connection with Power over Ethernet: – Sigrist – web interface – Modbus TCP – Ethernet according to 10/100BaseT – PoE according to 802.3af, class 0»
Profibus	Profibus DP-V1 Slave
Profinet	Profinet IO, Conformity class B
Measuring cells	
Standard	Flange connection with welding flange DN40 /DN80: – Stainless steel 1.4404 / 316L VARINLINE® connection: – Stainless steel 1.4404 / 316L Other materials and dimensions according to customer requirements







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