



negele

FLOW
LEVEL
PRESSURE
ANALYTICAL
TEMPERATURE
INSTRUMENTATION
PASTEURIZATION CONTROLS



"ITM-3A" Relative Turbidity Monitor

- **Cost effective optical technology for media > 2,000 NTU**
- **4-20mA plus switching in one sensor**
- **Back-lit LCD for set-up and monitoring**
- **4 ranges, two remotely selectable**
- **Completely independent of color changes**
- **3-A authorized**

Anderson is pleased to offer the ITM-3A as the most recent addition to our growing line of application-specific sanitary sensing solutions. The ITM-3A combines our proven optical "back-scattered light" technology with the latest generation of Negele electronics to provide an expanded feature set and simple user interface.

Standard features of the ITM-3A include 4 selectable ranges that can be programmed via the internal interface or any two of them can be remotely selected via a 24VDC decoupled input. So a single unit can be used for multiple products in the same line, with the range being set for optimal resolution as required.

A backlit LCD display is included for set-up as well as for local indication of the relative turbidity level.

And finally, a single switching output with adjustable setpoint and hysteresis is included for local or remote alarming, in addition to the standard 4-20mA output.

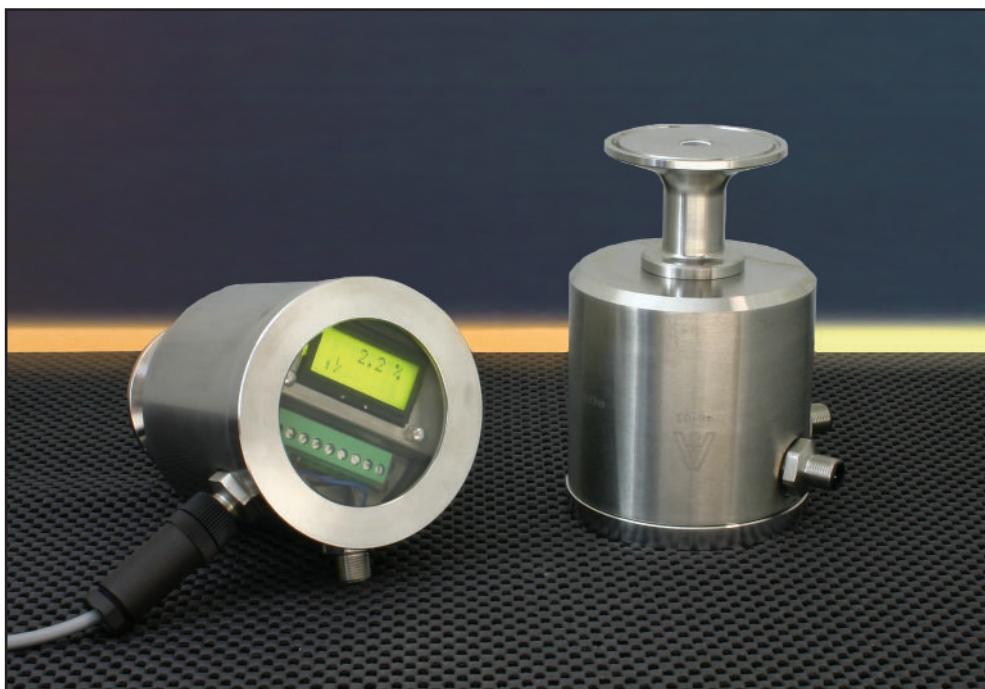
Wiring is accomplished via standard M12 quick disconnect receptacles, and the housing is IP69K/NEMA 4X rated. Our standard lens material is sapphire which has proven the most durable in the intended applications.

Applications for the ITM-3A include detection and automation of product-to-product as well as product-to-water interfaces in traditional dairy and beverage processes, but it can also be used to monitor CIP return lines for presence or absence of product. It's also been used for yeast harvest automation in breweries and for leak detection downstream of filters. Anywhere a change in turbidity can be used to signal, alarm, or automate may be another great place to install an ITM-3A.

Contact our factory or your local distributor for a demonstration, application question, or quotation.

APPLICATIONS

- **Transition monitoring for start-up, changeovers and shut-down/recycle: reduced lost product and BOD charges**
- **CIP return line monitoring: automate to save water**
- **Automation of yeast harvesting in breweries: improves live yeast capture and beer quality**
- **Integrity monitoring of filters: Protect against lost product due to blown filters**



"ITM-3A" Specifications

Process Connections: 1.5", 2" tri-clamps, 2.5", 3" and 4" available at slightly longer delivery times

Materials

Housing: 1.4305 (303 st. steel)
Fitting: 1.4404 (316L st. steel)
Lens: Sapphire glass
O-ring: 3-A compliant elastomer
Window Material: PMMA/Acrylic

Temperature Ranges

Ambient: -10 to +60°C (14 to 140°F)
Process: 0 to 100°C (32 to 212°F)
CIP / SIP: up to 140°C (284°F) for up to 30 minutes

Operating Pressure: up to 10 bar (150 psig)

Protection Class: IP69K / NEMA 4X

Ranges: 0 to 10 / 20 / 50/ 100% (internally selectable) Any two remotely selectable

Repeatability: within +/- 1% of full scale

Electrical

Connection: (2) M12 plugs
Power supply: 18 to 36 VDC, 150mA max, galvanically isolated

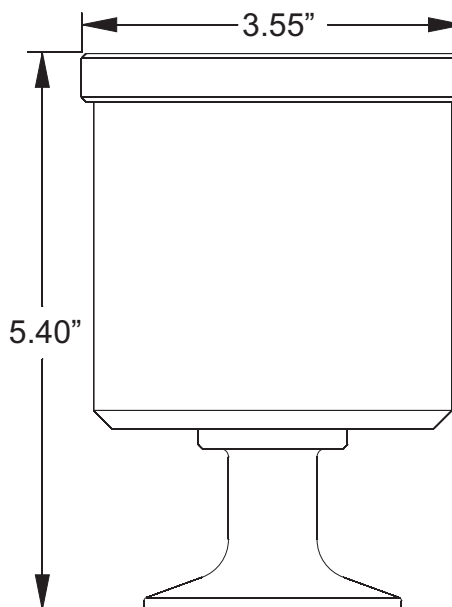
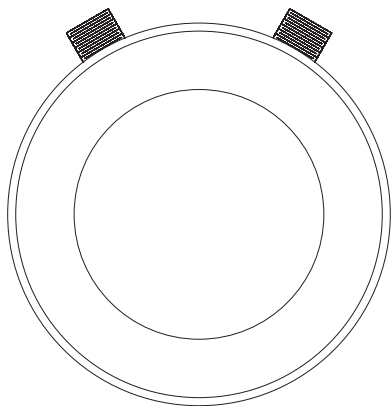
Remote range selection: 18 to 36 VDC, galvanically isolated

Outputs

Analogue: 4-20mA (scaled to measurement range)
Switching: active, 50mA max, short circuit-proof
Setpoint: adjustable 0-100%
Hysteresis: factory set at 5%, adjustable 0-100%
Measurement Principle: Infrared backscatter. Meets EN7027 (wavelength = 860 nm +/- 20 nm)

Display: backlit LCD, 2 x 8 digit

Weight: approx. 1600g. (3.2lbs.)



HOW TO ORDER



FITTING

- 004 1.5" Tri-Clamp®
- 005 2" Tri-Clamp®
- 006 2.5" Tri-Clamp®*
- 007 3" Tri-Clamp®*

ANALOG CABLE LENGTH

- 00 Quick Disconnect Receptacle (QDR) w/No Cable, no FWC
- 01 QDR & Field Wireable Connector (FWC) w/No Cable (std.)
- 05 QDR & FWC w/25 ft Cable
- 10 QDR & FWC w/50 ft Cable
- 15 QDR & FWC w/75 ft Cable
- 20 QDR & FWC w/100 ft Cable
- 25 QDR & FWC w/125 ft Cable
- 30 QDR & FWC w/150 ft Cable

SWITCHING/RANGE SELECTION CABLE LENGTH

- 00 Quick Disconnect Receptacle (QDR) w/No Cable, no FWC
- 01 QDR & Field Wireable Connector (FWC) w/No Cable (std.)
- 05 QDR & FWC w/25 ft Cable
- 10 QDR & FWC w/50 ft Cable
- 15 QDR & FWC w/75 ft Cable
- 20 QDR & FWC w/100 ft Cable
- 25 QDR & FWC w/125 ft Cable
- 30 QDR & FWC w/150 ft Cable

* Please allow an extra 4 weeks for delivery
(for fitting 006 and 007 above)