

"ITM-3" Relative Turbidity Monitor

Introduction

The Anderson-Negele ITM-3 combines a proven optical backscatter light technology with the latest generation of electronics to provide an expanded feature set and simple user interface yielding a highly adaptable optical sensing device.

Standard features of the ITM-3 include a 4-20mA output of the measured turbidity which can be assigned to 5 selectable ranges that can be programmed via the internal interface or configured so any two of them can be remotely selected via a 24 VDC digital input. This feature allows a single unit to be used for multiple products in the same line, with an output that can be set for the optimal resolution as required.

A backlit dual line LCD display is included for set-up as well for local indication of the relative turbidity level and switched output status.

And finally, a digital output is provided with adjustable setpoint and hysteresis for simplified integration in to a plant process.

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-3 include detection and automation of product to product changeovers as well as product to water interfaces in traditional dairy and beverage processes. The unit can also be used to monitor CIP return lines for presence or absence of product allowing for optimized flush water use. 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 monitor, alarm, or automate may be another great place to install an ITM-3.

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

Authorizations

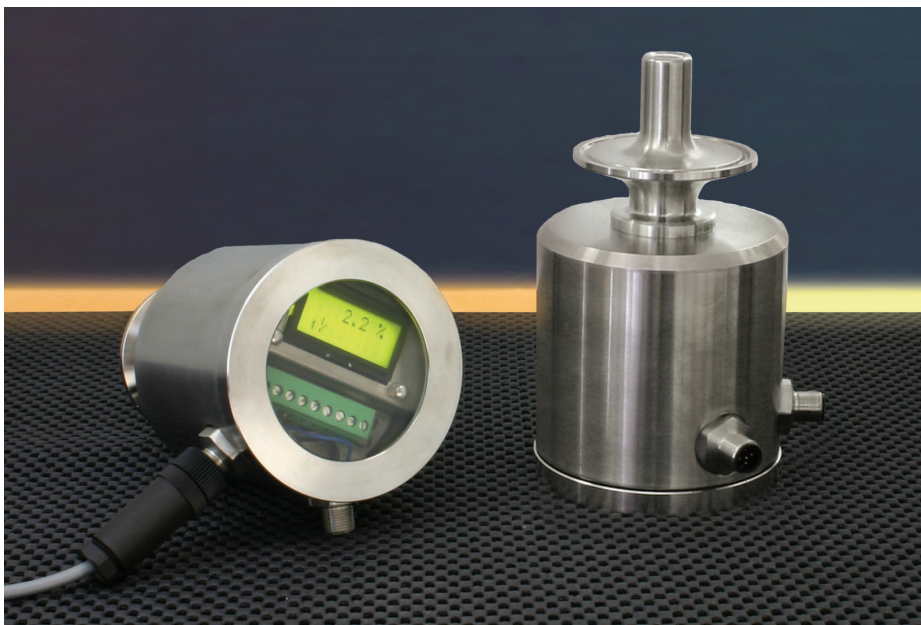


Features

- Cost effective optical technology for media > 2,000 NTU
- 4-20mA plus switching in one sensor
- Back-lit LCD for set-up and monitoring
- 5 ranges, two remotely selectable
- Completely independent of color changes
- 3-A Compliant; Third party verified in accordance with standard 46-03

Applications

- Transition monitoring for start-up, changeovers and shut-down/ recycle
- CIP return line monitoring
- Automation of yeast harvesting in breweries
- Integrity monitoring of filters



Specifications

Process Connections: 1.5", 2", 2.5" and 3" tri-clamps

MATERIALS

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

PERFORMANCE/OPERATIONS

Operating Pressure: 10bar (150 psi) maximum
 Ambient Temperature: -10 to +60°C (14 to 140°F)
 Process Temperature: 0 to 100°C (32 to 212°F)
 CIP / SIP: up to 140°C (284°F) for up to 30 minutes
 Enclosure Protection: Designed and factory tested to IP69K;intended for use in wet environments at up to 100% relative humidity

Measurement

Principle: Infrared backscatter. Meets EN7027 (wavelength = 860 nm +/- 20 nm)

Minimum Turbidity: 2000 NTU / 5% of 100% scale
 Ranges: 0 to 10 / 20 / 50/ 100/ 200% (internally selectable) Any two remotely selectable

Repeatability: within +/- 1% of full scale
 Response Time: adjustable 0, 1, 3, 6, 13 and 25 sec.

ELECTRICAL

Connection: 2 x M12 plug-in (SS 316), (1) 4 pin, (1) 5 pin
 Supply Voltage: 24 VDC (18-36 VDC)@ 150 mA
 Input Range Switching: E1=24 VDC (18-36 VDC) DC decoupled Output

OUTPUTS

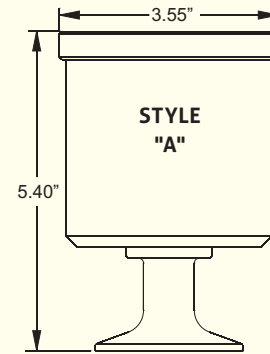
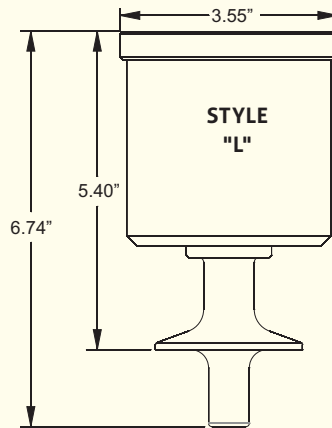
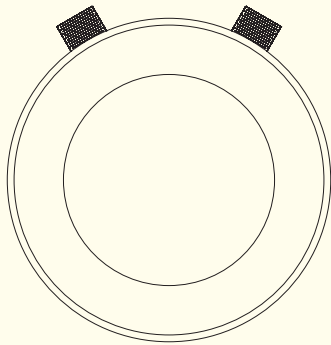
Analog: 4-20mA active
 Switching: 24 VDC 80 mA maximum respectively to GND of power supply
 Setpoint: adjustable 0-100%
 Hysteresis: factory set at 5%, adjustable 0-100%

Measurement

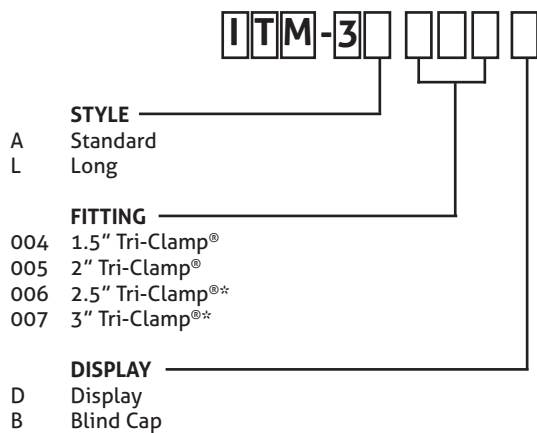
Principle: Infrared backscatter. Meets EN7027 (wavelength = 860 nm +/- 20 nm)
 Display: backlit LCD, 2 x 8 digit
 Weight: approx. 1600g. (3.2lbs.)

APPROVALS

ETL Listed
 Conforms to UL Std 61010-1 3rd Ed (with Display option B only)
 Certified to CSA Std C22.2 61010-1 3rd Ed (with Display option B only)



Order Information



Accessories

Shielded cordset w/25' cable	42117H0025
Shielded cordset w/50' cable	42117H0050
Shielded cordset w/100' cable	42117H0100
Field Wireable Connector-Straight	42119B0000
Field Wireable Connector-90°	42119A0000

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