

The Rugged Series is a non-nuclear inline process control system for slurry and industrial pipeline applications. Installed between standard flanges, it measures density, temperature, pressure, and vibration simultaneously from the full bore of the pipe, with integrated liner wear monitoring. All outputs delivered in real time via Ruby™ software. Engineered and manufactured in the USA.

PERFORMANCE

Accuracy	±0.5% of F.S.
Repeatability	±0.3% of F.S.
Pressure Reading Accuracy	<0.3%
Internal Sensor Accuracy	<0.5% (all internal sensors)
Output Measurement Rate	1 Hz

OPERATING CONDITIONS

Pipe Size Range	50–1000 mm (2"–40")
Operating Temperature	0°C to 110°C (32°F to 230°F)
Storage Temperature	0°C to 80°C (32°F to 176°F)
Max Operating Pressure	0–300 PSI Pipe sizes 4"–40" 0–70 PSI Pipe sizes 2"–3"
Flanged Connections	ANSI, DIN, BS, JIS
Liner Options	Linatex, Linard & Linagard series High resistance to abrasion, chemicals, UV and temperature. Anti-build-up properties.

PHYSICAL

Primary Material	Carbon Steel (Painted) 316 Stainless Steel optional
Electronics Box	Aluminium (Painted)
Enclosure Rating	IP67 compliant

CALIBRATION

Method	Factory calibrated. Field verification during installation confirms accuracy.
Certificates	Available on request



ELECTRICAL & I/O

Power Input	110–240V AC 24V DC (optional)
Current Draw	5A Minimum & Maximum
Reading Outputs	Density Temperature Pressure Vibration Liner Wear Mass Flow % Solids
Laser Classification	Class 1 - FDA (CDRH) Part 1040.10
Inputs	1 × 4–20mA External Flow Meter Signal 2 × 4–20mA Auxiliary Ports
Outputs	6 × 4–20mA Configurable (Analog) 1 × RJ45 Modbus TCP/IP (7 configurable sensor values)
Network	LAN RJ45 100 Mbps WiFi 2.4 / 5 GHz
Ports	USB-C (Power+Data) 2 × USB-A, RJ45, HDMI Phoenix Connectors (4–20mA) Barrier Terminal Block (Power)
Wiring	IPC Standards and/or local code requirements

DISPLAY & INTERFACE

Display	11.1" TFT LCD Removable Touch-Screen Tablet (optional) 1920×1200 · 16:10 · IP67 Waterproof Rugged Case · Wired connection up to 100m (extended range with boosters)
Screenless Operation	RubyView app - no local display or network required Suitable for installations where display access is restricted (e.g. underground)
Mounting	Available on request - G-clamp, rail clamp, drill mount
Configuration	User-configurable display options via Ruby™ software
Security	PIN-secured configuration and calibration menus
Remote Access	RubyView app Cloud read-only access Wired display (up to 100m)

INSTALLATION NOTE

Red Meters are not compatible with vacuum conditions below 0 PSI. A vacuum relief valve is included and must be properly installed. Red Meters is not responsible for damage caused by improper vacuum protection.