



General Specification

RCI-4100IS Rated Capacity Indicator Intrinsically Safe System for Offshore Hazardous Areas

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| <p>Controller and Display</p> | <p>Control Unit: The Control Unit has Ex ia and Ex ib interfaces and is optionally housed in an Ex d flameproof enclosure for Zone 1 applications. May be used without Ex d enclosure in safe zones. The control unit contains the 24 volt input power supply and processor module. For Zone 1 applications the Ex d enclosure is supplied with 10 standard (up to 12 maximum) Ex d certified glands for wiring to display unit, external sensors, switches, etc.</p> <p>Display Unit: The Display is certified Group IIB Ex ib Zone 1 applications.</p> |
| <p>Explosive Atmosphere Certifications</p> | <p>Display:</p> <ul style="list-style-type: none"> ○ Ex ib IIB/IIA T4 (-20oC≤Ta≤+60oC) ○ IECEX: IECEX ITA 08.0021X ○ ATEX: NEMKO08ATEX1433X ○ Environmental Protection, IP20 ○ Al-Si Aluminum Alloy housing, black powder-coated finish <p>Control Unit in Flameproof Housing, Hinged Lid:</p> <ul style="list-style-type: none"> ○ LOM 02 ATEX 3060 U Class 1, Zone 1 and Zone 2 ○ II 2 G - EEx d, II B T4 to T6 ○ IEC 60079 BKI 07.0018 Class 1, Zone 1 Ex ib IIB, T4 ○ Environmental Protection, IP65 ○ Al-Si Aluminum copper-free alloy, grey powder-coated finish <p>Sensors:</p> <ul style="list-style-type: none"> ○ Safe Area, Optional Zone 0 Ex ia IIB, T4 ○ Environmental Protection, IP66 |

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| Display | <p>5 Liquid Crystal Display (LCD) Windows:</p> <ul style="list-style-type: none"> ○ Top, 4x16 alphanumeric LCD, multifunction display ○ Centre, (2) 4-digit LCD, Load, SWL display ○ Bottom, (2) 4-digit LCD, Angle, Radius display ○ White LED Backlighting <p>LED indicators for hook selection and ATB Status</p> |
| Display Alarm | <p>LED Indicators:</p> <ul style="list-style-type: none"> ○ Green (safe) ○ Amber (warning) ○ Red (overload) ○ Main ○ Aux ○ ATB <p>Audible Alarm:</p> <ul style="list-style-type: none"> ○ Piezo ceramic buzzer ○ Intermittent – approach to SWL or override active ○ Continuous – overload and/or error(s) <p>Text Messages:</p> <ul style="list-style-type: none"> ○ Alphanumeric Alarm/Error conditions |
| Display Cable | <ul style="list-style-type: none"> ○ 4-core, screened instrumentation cable ○ 5-metre length ○ Hard-wired with gland at the back plate of display to Ex d gland of the Control Unit ○ DC resistance, 38 Ω/km @ 20 °C ○ Inductance, 277 μH/km ○ Capacitance, 17 nF/km ○ L/R ratio, 7.29 μH/Ω |
| Override Feature | Key switch on Display Unit |
| Analogue Voltage Inputs | <ul style="list-style-type: none"> ○ 8 channels ○ Resolution, 12 bits ○ Option for Ex ia Zone 1 interface, or safe area ○ Load cells with 1, 2, or 3 mV/V output and typical bridge impedance of 350 Ω ○ 4-20 milliamp input ○ Voltage or potentiometer input ○ Excitation 4 or 12 volts DC |
| Analogue Outputs | <ul style="list-style-type: none"> ○ Number of Outputs: 2 ○ Safe Area ○ Application: <ul style="list-style-type: none"> ▪ Load ▪ Constant Tension ▪ Gross Over-Moment Protection |



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| Anti 2 Blocking Input | <ul style="list-style-type: none"> ○ 2 channels ○ Switch input with open and short circuit detection |
| Digital Inputs | <ul style="list-style-type: none"> ○ 8 channels ○ Option for Ex ia, Zone 1 interface or safe area ○ Configurable: <ul style="list-style-type: none"> ▪ State (e.g. proximity switch) ▪ Quadrature (e.g. slew) ▪ Accumulator (e.g. event counter) ▪ Frequency (e.g. wind speed) ○ Open circuit switch voltage: approx. 3 VDC ○ Closed circuit switch current: 3 mA |
| Relay Outputs Safe Zone | <ul style="list-style-type: none"> ○ 8 channels (3 safety relays for general safety critical indication) ○ Safe Area ○ Rating: 5 amp, 250 VAC ○ Function: Limiting, External Alarm, External Indicators, etc. ○ An optional Digital Expander Module (safe area) with 8 relay outputs can also be supplied if more outputs are required |
| Sensors Supported | <ul style="list-style-type: none"> ○ Analog Voltage (length, angle, etc.) ○ 4-20 milliamp current ○ RS485 / RS232 ○ Load Cells ○ RS485 ○ Digital Input (proximity switches, etc.) ○ Quadrature input (slew angle encoders, etc.) ○ Frequency (wind speed, winch speed, etc.) |
| Serial Communications | <ul style="list-style-type: none"> ○ RS-232: <ul style="list-style-type: none"> ▪ Safe area, Ex ib Zone 1 Optional ▪ Data log download ▪ Configuration upload/download ▪ Program upload/download ▪ 9600 baud factory configured ○ RS485: <ul style="list-style-type: none"> ▪ Safe area, Ex ib Zone 1 Optional ▪ 9600 baud factory configured |
| Processor Speed | 25 Mips |



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| System Memory | <ul style="list-style-type: none"> ○ Data Memory: <ul style="list-style-type: none"> ▪ 128 kByte of non-volatile FRAM (calibration, setup) ▪ 8 Mbyte FLASH (load charts, datalog) ○ Program Memory: <ul style="list-style-type: none"> ▪ 128 kByte FLASH ○ SD Card: <ul style="list-style-type: none"> ▪ Up to 32 GByte can be accommodated ▪ Program upload/download ▪ Calibration upload/download ▪ Logged Data download |
| System | <ul style="list-style-type: none"> ○ Microprocessor Watchdog ○ Onboard Timekeeping with power backup ○ Automatic System Diagnostics |
| On-board Calibration | System Calibration via Operator Console |
| Unit Conversion | Conversion between metric and imperial units |
| Power Supply Input | <ul style="list-style-type: none"> ○ Voltage: 9 VDC – 36 VDC ○ Power: 15 VA |
| Physical | <ul style="list-style-type: none"> ○ Display Unit: <ul style="list-style-type: none"> ▪ 260 mm (H) x 150 mm (W) x 60 mm (D) ▪ Weight, approx 3 kgs ○ Control Unit: <ul style="list-style-type: none"> ▪ Hinged lid, 371 mm x 371 mm x 233mm (depth) ▪ Weight, approx 18 kgs |
| Environmental | <ul style="list-style-type: none"> ○ Display: <ul style="list-style-type: none"> ▪ Operating Temperature -20°C to +60°C ▪ Dust and Water Ingress, IP65 ○ Control Unit with Ex d Housing: <ul style="list-style-type: none"> ▪ Operating Temperature -20°C to +60°C ▪ Dust and Water Ingress IP65 |
| EMC | <ul style="list-style-type: none"> ○ 61000-6-4 ○ 61000-6-2 |
| RoHS Compliant | Yes |

