SENTRAN

Digital Weight Control Module

KD3Series

The KD3 Series is a high performance, multi-featured digital controller. It is designed as a companion instrument for load cells, force transducers, torque transducers, pressure transducers and weighing systems.

The KD3 Series is a high performance, multi-featured DIN rail mount digital controller designed as a companion instrument for load cells, force and torque transducers, and weighing systems. RS232/422/485 serial interfaces are supported. MODBUS® RTU protocol is standard and Ethernet TCP is an available option. KD3 Series utilizes a high resolution 24-bit input D/A with a 16-bit output D/A for the standard 0-5 VDC, 0-10 VDC, 0-20 mA, and 4-20 mA configurable outputs. A Bipolar option is also available with ± 5 VDC and ± 10 VDC configurable outputs. Remote sensing is supported, which is particularly beneficial where long cable runs or Intrinsic Safety barriers are employed. The KD3 series operates on 24 VDC power and includes digital I/O with two optically-isolated logic inputs and two optically-isolated logic outputs. Innovation® is an MS Windows-based software, providing an intuitive and convenient tool for PC Setup/Control/ Networking. The attributes of the KD3 Series digital controller is ideal for measurements in the laboratory, manufacturing, process applications, weighing situations, and for general measurement and control.

ISO 9001:2015 CERTIFIED · IP 20 · ETHERNET · USB

APPLICATIONS

- Process Control
- Weighing Applications
- I.S. Hazardous Areas
- Laboratory Measurements
- Force, Torque or Pressure
- O.E.M. Requirements

FEATURES

- 24–Bit A/D
- Analog or Digital Calibration
- HI-Res 16-Bit Analog Output
- MODBUS® RTU Over RS 485
- Ethernet/Profibus/DeviceNet
- RS 232 & 422/485 Interfaces
- USB Interface
- 10 Point Linearization
- 0.01% Accuracy Class
- Peak Hold
- Four Digital I/O

For more information call **1-888-545-8988**

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KD3 Series Specifications

Innovative Measurement Solutions

OPERATOR INTERFACE

Display:	LED; 6 Digit; Numeric; 7-Segment Digits; .55" High; Red
Status Annunciation:	4 (LED); Red; Indicate "SP1", "SP2", "NET", "Center of Zero"
Keypad:	4-Key; Tactile Feedback; Multi-function
Display Resolution:	60,000 dd (max.)
Display Increments:	1, 2, or 5; Selectable
Decimal Point:	0.0, 0.00, 0.000; Selectable
Digital Filter:	Keypad Programmable; 0.1 to 25 Hz
Zero Tracking:	0, 1, 2, 3 or 4 digits; Selectable
Motion Detection:	0, 1, 2, 3 or 4 digits; Selectable
Operating Modes:	Net, Gross, Peak Hold
Calibration Method:	Keypad; Enter/Store Zero and span value; PC Innovations® Software

FUNCTION

Linearity:	Better Than Or Equal To 0.01% Full Scale (FS)
Internal Resolution:	24-Bit A/D; >16,000,000 Graduations
Measurement Rate:	50 Updates Per Second
Signal Sensitivity:	.02 mV/Graduation
Span Input Range @ Full Scale:	-0.5 to +3.5mV/V (Standard) /-3.9 mV/V to +3.9 mV/V (Bi-Polar Option)
Excitation Voltage:	5 VDC (Nominal); Short circuit protected
Current Rating:	85 mA (Nominal); Up To 6 Summed 350 W Bridges
Power:	24 VDC ±15%; 5 Watts
Warranty:	1 Year; Limited

ANALOG OUTPUT

Type:	16-Bit D/A; > 65,000 Graduations
Output Formats:	0-5 or 0-10 VDC; 0-20 or 4-20 mADC (Standard) / ± 5 or ± 10 VDC (Bi-Polar Option)
Resistance Loads:	Voltage: 10K Ohm minimum, Current 300 Ohm maximum

COMMUNICATION

Serial Port Interfaces:	TWO Ports: 1) USB/RS-232; 2) RS422 or RS485
Standard Baud Rates:	2400, 9600, 19,200 38,400 or 115,200 Baud; Full Duplex; Selectable (RS232)
Standard Protocols:	ASCII; MODBUS® RTU, Continuous, Demand, Slave (Port 2)
Addresses:	Up to 32
Recommended Cable Lengths:	RS-232 is 50 ft. (max); RS-422 & RS-485 is 3200 ft (max)I/O
Fieldbus Protocol:	Profibus/DeviceNet / ETHERNET 10/100 (Optional)

I/O

Logic Inputs:	Two; Opto-Isolated; 24 VDC PNP (requires external power source)
Logic Outputs:	Two; Opto-Relays; (maximum load 24 VDC/100 mADC each

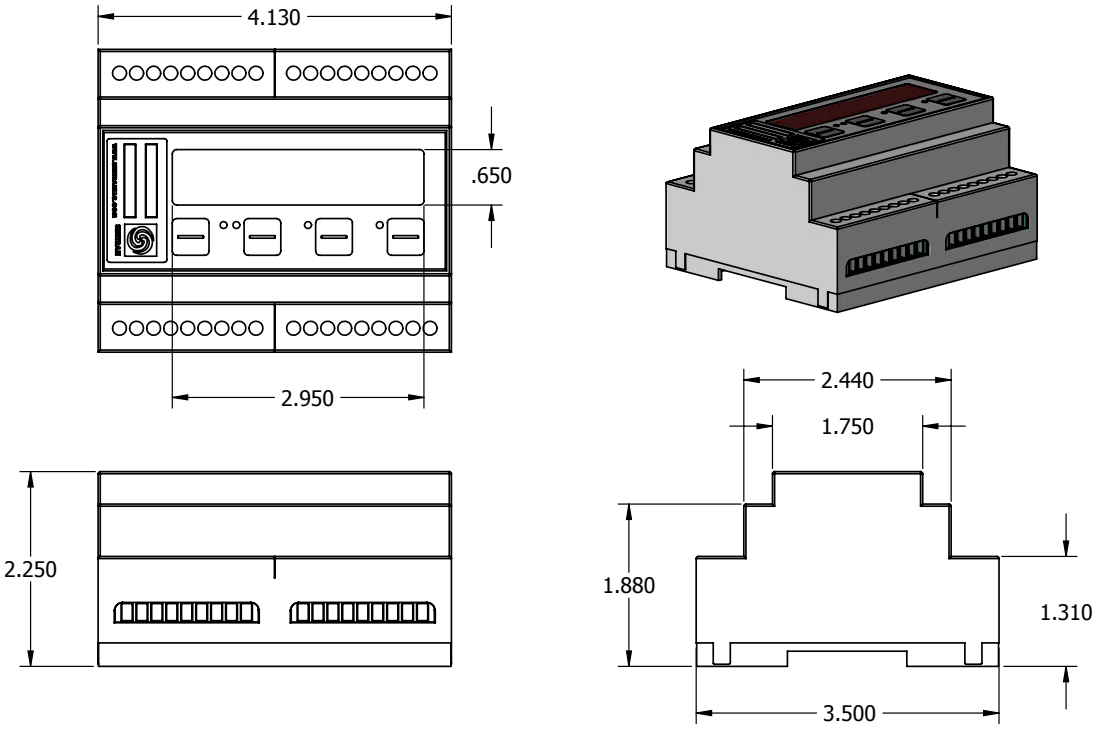
ENVIRONMENTAL

Operating Temperature Range:	-10° To +50° C / 14 To 122°F
Storage Temperature Range	-20° To +70° C / -4° To 158° F
Humidity Range:	0 To 85% RH; Non-condensing
Temperature Effect on Output:	<.0005% FS/°F (<.001% FS/°C)
Regulatory Compliance:	EN 61326-1, EN55011 and EN55014 for EMC; EN61010-1 for Electrical Security

ENCLOSURES

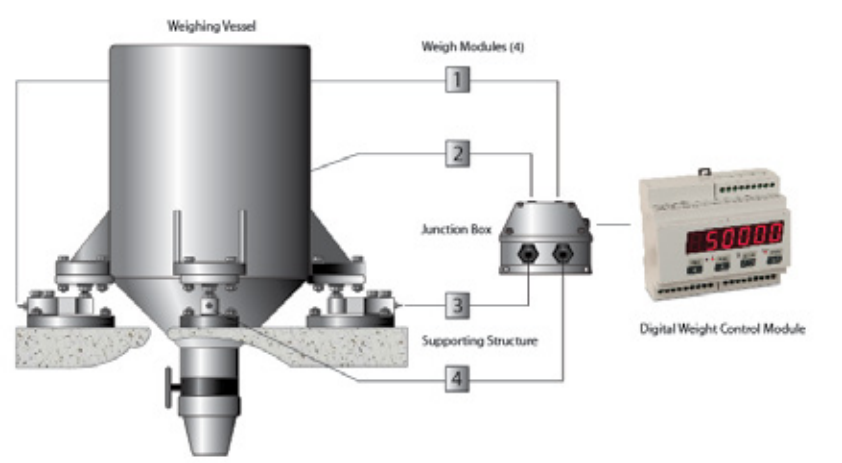
Enclosure Construction:	DIN Rail Mount; NORYL Auto-extinguishing; IP20
Enclosure Dimensions:	KD3: 4.13" wide X 3.5" high X 2.25" deep
Wiring Connections:	Screw Terminal Blocks; Pitch of 0.196"
Weight:	9 Ounces

KD3 Series Dimensions

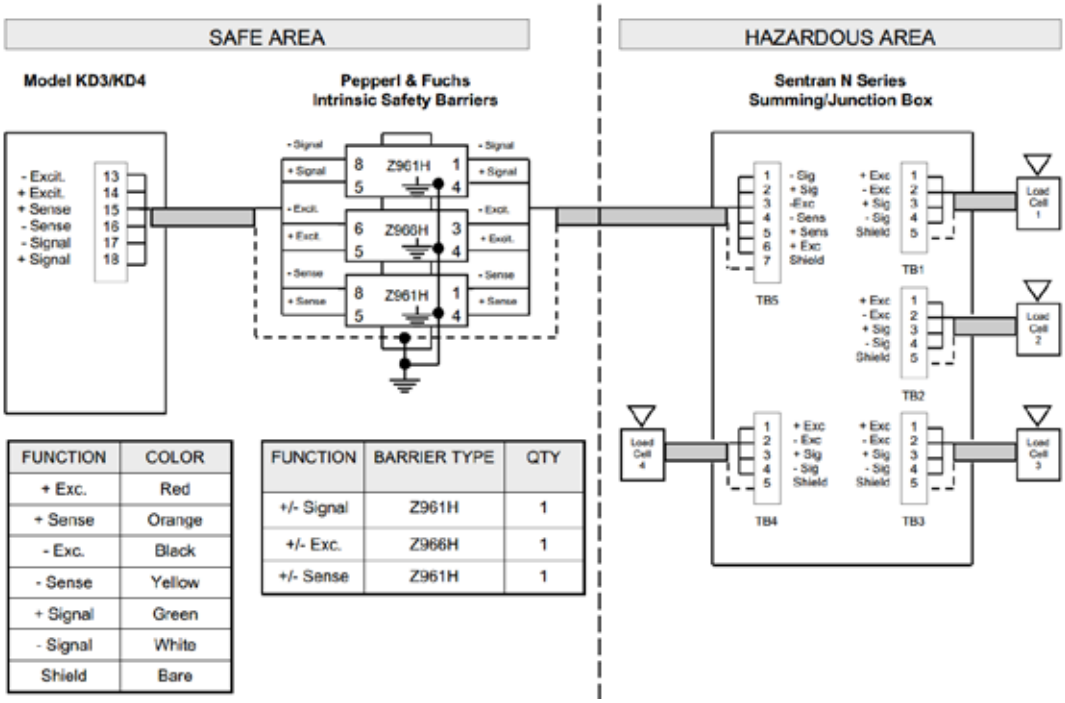


DIMENSIONS IN INCHES

Typical Weighing System



HAZARDOUS AREA SCHEMATIC



FUNCTION	COLOR
+ Exc.	Red
+ Sense	Orange
- Exc.	Black
- Sense	Yellow
+ Signal	Green
- Signal	White
Shield	Bare

FUNCTION	BARRIER TYPE	QTY
+/- Signal	Z961H	1
+/- Exc.	Z966H	1
+/- Sense	Z961H	1

APPLICATION INFORMATION: REMOTE SENSING (6-WIRE) COMPENSATION

Load cell output sensitivity will be affected by the addition or subtraction of resistance as measured at the end of the factory supplied cable and/or connector. Changes in this measured resistance most often occurs as the result of adding or subtracting cable length. Another common cause is the introduction of intrinsic safety barriers or similar resistive influences. Connection junctions introduced to the measurement circuit can introduce unwanted resistance, so take care in making these connections secure and clean.

- Resistance changes of 0.37% per 10 feet of 28 gauge cable can be expected.
- Resistance changes of 0.09% per 10 feet of 22 gauge cable can be expected.

The affects of these resistance changes can be virtually eliminated with the use of the Remote Sensing feature (6-wire) found in many better measurement amplifiers/indicators, such as the KD Series.

Legal Disclaimer

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