



KD

DIGITAL WEIGHT CONTROL MODULE

applications

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

features

- 24-Bit Internal Resolution
- Analog or Digital Calibration
- *Hi-Res* 16-Bit Analog Output
- MODBUS® RTU Protocol
- RS-232/422/485 Interfaces
- 60,000 LED Display Digits
- 0.01% Accuracy Class
- Peak Hold Option
- Four Digital I/O
- DIN or Panel Mount

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KD4 Panel Mount w/ Display

KE3 DIN Rail w/ No Display

KD3 DIN Rail w/ Display

The KD Series is a complete, high performance, multi-featured digital controller. This very versatile control module is designed as a companion instrument for load cells, force transducers, torque transducers, pressure transducers, weighing systems and virtually any bonded foil strain gage-based transducer. The display is an easy-to-read .55" bright red LED character display, with status annunciators. The 4-key touchpad makes setup and operation of the KD Series quick and simple. Optional *Innovation*® is an MS Windows-based software, providing an intuitive and convenient format for PC Control/Handshaking/Networking. The high internal resolution, programmable digital filtering and A/D conversion rate of 50 updates per second allows the user to readily configure the KD Series for a broad range of measurement tasks. Two calibration options are available: Digital (keypad entry), or analog (reference signal). Additionally, the 10-point linearization feature provides a means for optimizing measurement system accuracy. RS232/422/485 serial interfaces are supported. MODBUS® RTU protocol is standard. A high resolution, 16-bit D/A analog output is also standard with 0-5 VDC, 0-10 VDC or 4-20 mA user selectable formats. The digital I/O consist of two optically-isolated logic inputs and two optically-isolated logic outputs. Remote sensing is supported. The KD series operates on 18-28 VDC and provides 5 VDC excitation to the transducers. The durable ABS enclosures are DIN rail or panel mount configurations, and are rated IP20. The KD Series family of products include AC to DC power supplies, Network Gateway Controllers and Analog Transmitters. ProfiBus and DeviceNet communications protocols are available. The attributes of the KD Series are ideal for measurements in the laboratory, manufacturing, process applications, weighing situations, and for general measurement and control.

Innovative Measurement Solutions



operator interface

Display:	LED: .55" High; Red; 7-Segment Digits; Full 6 Digit Numeric Display
Status Annunciators:	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, 5, 10, 20 or 50; Selectable
Decimal Point:	0.0, 0.00, 0.000; Selectable
Digital Filter:	Keypad Programmable; .5 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, Mode 1, Mode 2
Calibration Method:	Digital; Keypad; Enter/Store Zero and span value; PC remote capable Analog; Requires reference signal source; Deadload method

function

Linearity:	Better Than Or Equal To 0.01% Full Scale (FS)
Internal Resolution:	24-Bit A/D; >16,000,000 Graduations
Measurement Rate:	60 Updates Per Second
Signal Sensitivity:	.2 μ V Per Graduation (maximum)
Span Range @ Full Scale:	0.5 mV/V to 3.5 mV/V
Excitation Voltage:	5 VDC (Nominal); Short circuit protected
Current Rating:	60 mA (Nominal); Up To 6 Summed 350 Ω Bridges
Power:	24 VDC \pm 15%; 5 Watts
Weight:	8 Ounces
Warranty:	1 Year; Limited



analog output

Type:	16-Bit D/A; > 65,000 Graduations
Output Formats:	0-5 VDC & 0-10 VDC (10Kohm min load); 4-20 mADC (300 Ohm max load)
Software Selectable Parameters:	Output format; Full Scale and Zero Offset Values; Net, Gross, Peak or Test Modes

serial port

Serial Port Interfaces:	RS-232; RS422 or RS485
Standard Baud Rates:	2400, 9600, 19,200 38,400 or 115,200 Baud; Full Duplex; Selectable
Standard Protocols:	MODBUS [®] RTU, Continuous, Demand, Slave
Addresses:	Up to 32
Recommended Cable Lengths:	RS-232 is 50 ft. (max); RS-422 & RS-485 is 3200 ft (max)

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 +40° C / 14 To 104° F
Storage Temperature Range	-20° To +50° C / -4° To 122° F
Humidity Range:	0 To 85% RH; Non-condensing

enclosures

Enclosure Construction:	KD3/KE3: NORYL Auto-extinguishing; DIN Rail Mounting; IP20 KD4: NORYL Auto-extinguishing; Panel Mounting; IP20
Enclosure Dimensions:	KD3/KE3: 4.17" wide X 3.54" high X 2.28" deep KD4: 3.79" wide X 1.89" high X 6.3" deep
Wiring Connections:	Terminal Blocks; Pitch of 0.196"