

Compact Plug-in Signal Conditioners

M2 Series



CE cUL US

M2E Series



CE

W2 Series



CE cUL US

- **M2/W2 Series** (Mini-M and Mini-MW) features wide selection of input/output ranges and functions
- **M2E Series** with bright, high-contrast OEL (Organic Electroluminescence) display for setting and process monitor
- **W2 Series** (Mini-MW) provides a second isolated output of independent range
- DIN rail or surface mounting
- 2000 Vac isolation
- Base socket included with the modules

Low-profile Signal Conditioners

M5 Series



CE

B5 Series



CE

W5 Series



CE

- Only 41 mm (1.61 in) deep, terminal block style modules can be installed anywhere, even behind the panel cover.
- **M5/W5 Series:** Line powered type (4-wire)
- **B5 Series:** Loop powered type (2-wire)
- **W5 Series** provides a second isolated output of independent range
- DIN rail mounting
- 2000 Vac isolation

Thin-profile Signal Conditioners

M3S Series

- Space-saving modules with separable terminal blocks
- Universal AC/DC power input available



CE

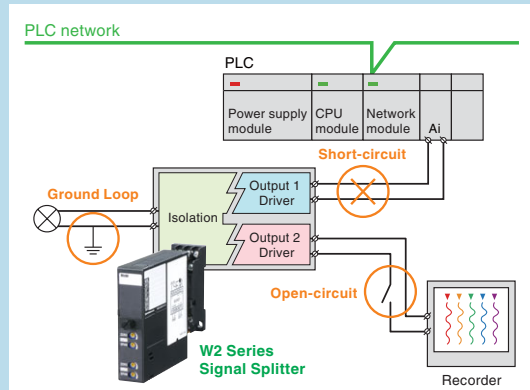
M6 Series

- Ultra-slim design
- Selectable connection styles: Tension-clamp, screw terminal or euro terminal
- Low power consumption, high load drive capability
- 2000 Vac isolation



CE cUL US

Why Isolate the Second Output?



Channel-to-channel Isolation Enhances the Overall System Reliability

Whenever you want to add another device such as a recorder to a sensor signal loop connected to PLC's analog input module, a signal splitter that can output two isolated signals is recommended.

The loop's load capacity may allow to connect one more load in series to (4-20 mA current signal) or in parallel to (1-5 V voltage signal) an existing receiving instrument. However, in such a configuration, short-circuit, open-circuit or ground loop at one part of the loop could affect the entire system.

Galvanically separating each part of the loop is beneficial to contain any damage to the limited section in case of an accident, thus to making troubleshooting easier, minimizing the system downtime.

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- Signal Conditioners Selection Guide
- Function Modules & Retrofit Products
- Limit Alarms
- Indicators
- Tower Lights
- Power Transducers
- Remote I/O
- Paperless Recording System
- Web Data Loggers
- PID Control Components
- Temperature Controllers
- Final Control Components
- Lightning Surge Protectors

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Programmable Signal Conditioners

M3L Series

"One-Step Cal" Configuration without PC

- Enhanced PC configurator software is also available
- Universal I/O specifications ideal for spare parts stock reduction programs
- DIN rail mounting
- 1500 Vac isolation



CE cULus

B3 Series

DIP Switch Configurable

- Input type and range selectable with the internal DIP switches and fine calibration using the front potentiometers
- Wide supply voltage range 12-45 Vdc
- 1500 Vac isolation between input and output



CE cULus

Field-mount Signal Conditioners

B6U / B6U-B

Universal HART Temperature Transmitters

- Plug-in two-line LCD display
- HART programmable
- User's own temperature calibration tables can be used
- IP66 / IP67 field enclosure; Stainless steel optional



B6U-B
IP66/IP67



B6U CE Ex FM APPROVED IECEX

27 / 26 Series

Programmable Head-mount Transmitters

- 27 Series: HART or PC programmable type available
- 26 Series: Fixed range
- Function monitor LED optional for 27 Series RTD and potentiometer input



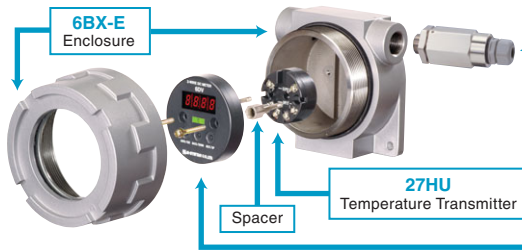
26 Series



27 Series CE Ex FM APPROVED

CE Ex

FIELD-MOUNT ACCESSORIES



MD6 Series Surge Protectors

CE Ex FM APPROVED



6DV / 6DV-B 4-digit Loop Powered Indicator

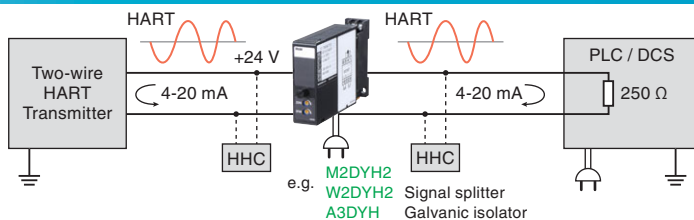
6DV 6DV-B

CE Ex FM APPROVED



ISOLATOR APPLICATIONS 2

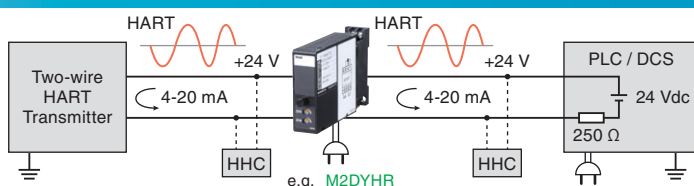
4-wire isolator / current loop supply : 4-20 mA (active) input / 4-20 mA output (source) / Line powered



Designed to interface a PLC and DCS system with a field HART transmitter. The isolator module supplies 24 Vdc power to the field device.

It also allows the HART signal to pass when a technician needs to access the transmitter's process and diagnostic information via the HART signal using a HART hand-held communicator (HHC), from any termination point of the loop at both sides of the isolator.

When the receiver powers the isolator's output loop (sink)



- Remote field signal monitored by control system
- Water/wastewater treatment
- Petrochemical, tank farms, large manufacturing sites

Other Signal Conditioners

These products which were released in the market decades ago are still maintained today as M-System products lineup to serve our customers maintaining the performance of existing process control systems.

Please visit M-System web site to confirm specs of specific models.

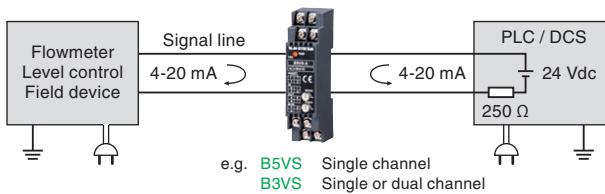
<p>M-UNIT Series Plug-in Signal Conditioners</p> 	<p>MX-UNIT Series Front-Configurable Signal Conditioners</p> 	<p>K-UNIT Series Plug-in Signal Conditioners</p> 
<p>W-UNIT Series Plug-in Signal Splitters</p> 	<p>H-UNIT Series Space-saving Signal Conditioners</p> 	<p>M8 (Pico-M) Series Dual Output Super-mini Signal Conditioners</p> 
<p>10-RACK Series High-density Signal Conditioners</p> 	<p>18-RACK Series DCS Signal Conditioners</p> 	<p>38-RACK Series Interposing Relays</p> 

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ISOLATOR APPLICATIONS 3

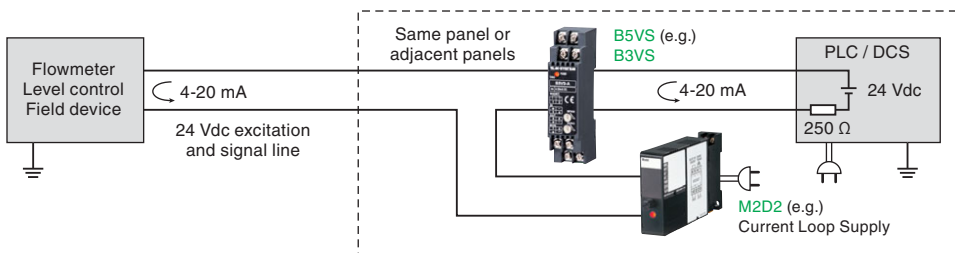
2-wire isolator : 4-20 mA input / 4-20 mA output (loop powered)



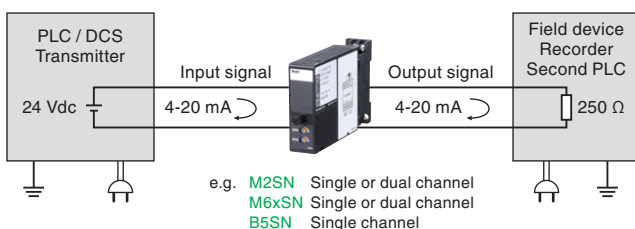
Basic isolator designed to interface a PLC and DCS system that provides a 24 Vdc power supply with a 4-20 mA input.

- Remote field signal monitored by control system
- Water/wastewater treatment
- Petrochemical, tank farms, large manufacturing sites

With the excitation supply to the field device



2-wire isolator : 4-20 mA input (loop powered) / 4-20 mA output



Mainly used to retrofit existing 4-20 mA process loops that need to add another instrument to the loop while maintaining isolation.

- Chart recorder or another PLC
- Backup monitoring system







Signal Conditioners Selection Guide

Only typical signal conditioner models and specs are mentioned in this table.
Please visit M-System web site to confirm availability and specs of specific models.



SERIES		M2 / M2E	W2	M5 / B5	W5	
Enclosure / Mounting Type		Plug-in base socket, DIN rail or surface mount		41 mm deep housing, DIN rail mount		
Range Availability		Specified when ordering or PC/One-step Cal programming (M2E: PC / Front display setting)		Specified when ordering or DIP switch programming (W5FV)		
Dual Output		-	Yes	-	Yes	
Power Input		AC/DC		AC/DC		
Isolation		2000V AC		2000V AC (except M5/AC powered type: 1500V AC)		
Operating Temperature		-5 to +55°C (23 to 131°F)		M5/W5: -5 to +55°C (23 to 131°F) B5: -40 to +80°C (-40 to +176°F)		
Standards & Approval		CE / UL / C-UL		CE		
4-wire Signal Conditioners	Universal input	DC output	M2XU, M2XUM			
	DC mV, Voltage & Current	Fixed range	M2VS	W2VS	M5VS, M5MV	W5VS
		Fixed range, high speed response	M2VF, M2VF2, M2VF3	W2VF	M5VF, M5VF2	
		Configurable	M2XV2, M2LV, M2FV, M2EXV			W5FV
		Dual isolated output		W2VS		W5VS
	Thermocouple	Fixed range	M2TS, M2TT	W2TS	M5TS	W5TS
		Configurable	M2XT2, M2EXT	W2XT		
	RTD	Fixed range	M2RS, M2RS1, M2RT, M2RR	W2RS, W2RS1	M5RS	W5RS
		Configurable	M2XR2, M2LR, M2EXR	W2XR		
	Potentiometer	Fixed range	M2MS	W2MS	M5MS	W5MS
		Configurable	M2XM2, M2LPM, M2EXM	W2XM		
	Strain gauge	Fixed range	M2LCS			W5LCS
		Configurable				
	AC voltage & current	AC voltage & current	M2AC, M2TG	W2AC, W2TG		
		Voltage transformer	M2PE, M2PA	W2PE, W2PA	M5PT	
		Current transformer	M2CE, M2CA, M2CEC	W2CE, W2CA	M5CT, M5CTC	
	Current loop supply (2-wire transmitter excitation supply)	Fixed range	M2D(2), M2DYS, M2DY, M2DL, M2DYH, M2DNY, M2DU	W2DYS, W2DNY	M5DY	W5DY
		Configurable	M2EXDY			
		HART compatible	M2DYH2, M2DYHR	W2DYH2		
	Pulse to analog	Fixed range	M2SP	W2SP	M5PA	W5PA
Configurable		M2XPA3				
Encoder input, configurable		M2XRP2				
Analog to pulse	Fixed range	M2AP	W2AP			
	Configurable					
Pulse scaling	Configurable	M2PRU				
	Configurable					
Pulse isolation	Fixed range	M2PP	W2PP			
	Configurable					
Pneumatic input	19.6-98.1 kPa	M2PV	W2PV			
Function modules		» See Page 10				
2-wire Signal Conditioners	Input loop powered isolator	1 channel	M2SN-1		B5SN	
		2 channels	M2SN-2			
	Output loop powered isolator	1 channel			B5VS	
		2 channels				
	DC mV, Voltage & Current	Fixed range			B5VS	
		Configurable				
	Thermocouple	Fixed range			B5TS	
		Configurable				
		Configurable, IS				
	RTD	Fixed range			B5RS	
		Fixed range, IS				
		Configurable				
		Configurable, IS				
	Potentiometer	Fixed range			B5MS	
Configurable						
Pulse to analog	Fixed range					
	Configurable					
Universal input	Configurable, IS					
	4-20 mA output, HART, IS PROFIBUS					
Limit alarms		» See Page 11				

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						SERIES
18 mm wide housing, DIN rail mount	12 mm wide housing, DIN rail mount	Ultra-slim housing, DIN rail mount	Field mount enclosure	DIN type B head mount		Enclosure / Mounting Type
Specified when ordering or PC/One-step Cal programming	Specified when ordering or PC programming	Specified when ordering or PC programming	HART (PC) programming	PC or HART programming	Specified when ordering	Range availability
–	–	Selected models	–	–	–	Dual Output
AC/DC	AC/DC	DC	Output loop powered	Output loop powered		Power Input
2000V AC (DC powered)	2000V AC	2000V AC	1500V AC	1500V AC		Isolation
M3: -25 to +65°C B3: -40 to +85°C	-10 to +55°C (14 to 131°F)	-20 to +55°C (-4 to +131°F)	-40 to +85°C (-40 to +185°F)	-40 to +85°C (-40 to +185°F)		Operating Temperature
CE / UL / C-UL / ATEX / FM	CE	CE / UL / C-UL	CE / ATEX / FM	CE / ATEX / FM	CE / ATEX	Standards & Approval
M3LU2		M6xXU				Universal input
	M3SYV, M3SVS	M6xYV, M6xVS				DC mV, Voltage & Current
M3LV	M3SXV M3SWVS	M6xYV M6xXV M6xWVS				
M3LT	M3SXT M3SRS	M6xXT				Thermocouple
M3LR	M3SXR	M6xXR				RTD
M3LM	M3SMS	M6xXM				Potentiometer
M3LLC						Strain gauge
		M6xCTC				AC voltage & current
M3DY	M3SDY	M6xDY				Current loop supply (2-wire transmitter excitation supply)
M3LDY A3DYH (IS)						
M3LPA2		M6xPA				Pulse to analog
		M6xXAP				Analog to pulse
		M6xPP				Pulse scaling
						Pulse isolation
» See Page 10						Pneumatic input
		M6xSN-1				Function modules
		M6xSN-2				
B3VS/1						Input loop powered isolator
B3VS/2						
B3VS						Output loop powered isolator
B3FV						
B3FT					26TS1	DC mV, Voltage & Current
				27TS		Thermocouple
				27TS		
					26R1, 26RS	RTD
B3FR					26REX	
				27R, 27RS		Potentiometer
				27R, 27RS		
				27PM		Pulse to analog
B3FP						Universal input
B3HU, B3HU2			B6U, B6U-B, 27HU-B	27U		
B3PU				27HU		Limit alarms
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