General Specifications

Attribute	Value
Communication rate	EtherNet/IP 10/100 Mbps Full or half-duplex 100 meter per segment

EtherNet/IP I/O Modules

Type	Catalog Number	See Page
Digital DC Combination I/O Modules	1732E-8X8M12DR	16
	1732E-12X4M12QCDR	
	1732E-12X4M12P5QCDR	
Digital DC Input Modules	1732E-IB16M12	16
	1732E-IB16M12W	
	1732E-IB16M12DR	
	1732E-IB16M12R	
	1732E-IB8M8SOER	
	1732E-IB16M12SOEDR	
Digital DC Output Modules	1732E-OB8M8SR	17
	1732E-OB16M12	
	1732E-OB16M12DR	
	1732E-OB16M12R	
Digital DC Self-configurable I/O Modules	1732E-8CFGM8R	18
	1732E-16CFGM12	
	1732E-16CFGM12W	
	1732E-16CFGM12R	
	1732E-16CFGM12QCR	
	1732E-16CFGM12QCWR	
	1732E-16CFGM12P5QCR	
	1732E-16CFGM12P5QCWR	
Analog I/O Modules	1732E-IF4M12R	20
	1732E-OF4M12R	
Thermocouple/RTD Modules	1732E-IR4IM12R	20
	1732E-IT4IM12R	

- **Selectable response to broken input sensor**. This feature provides feedback to the controller that a field device is not connected or operating properly. This allows you to specify corrective action based on the bit or channel condition.
- **Field calibration**. Modules can be recalibrated using AOP (Add-On Profiles) for RSLogix 5000 software. This allows you to improve the accuracy of the module for your application.

Analog I/O Modules

	Catalog Number	Inputs (Sink)	Outputs (Source)	Resolution	Absolute Accuracy	Conversion Rate	Current for Input Device Power per Point, Max.	Potential Aux. Current per Module, Max.	Termination Type
EtherNet/IP	1732E-IF4M12R	4 inputs configurable as voltage or current per channel	0	16 bits	0.1% Full Scale @ 25 °C (77 °F)(1)	≤ 2 ms	20 mA	4.0 A	(4) M12
	1732E-OF4M12R	0	4 outputs configurable as voltage or current per channel	16 bits	0.1% Full Scale @ 25 °C (77 °F)(1)	≤ 2 ms	–	4.0 A	(4) M12

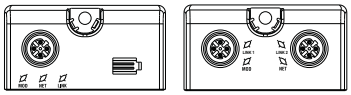
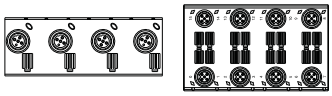
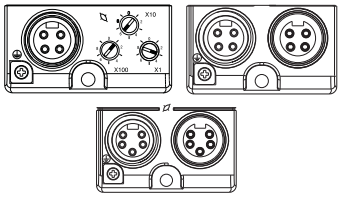
(1) Includes offset, gain, non-linearity, and repeatability error terms.

Thermocouple/RTD Modules

	Catalog Number	Inputs (Sink)	Outputs (Source)	Resolution	Absolute Accuracy	Conversion Rate	Current for Input Device Power per Point, Max.	Potential Aux. Current per Module, Max.	Termination Type
EtherNet/IP	1732E-IR4IM12R	4 inputs	0	16 bits	0.1% Full Scale @ 25 °C (77 °F)(1)	≤ 2 ms	–	4.0 A	(4) M12
	1732E-IT4IM12R	4 inputs (Type B/C/E/J/K/N/R/S/T)	0	16 bits	0.1% Full Scale @ 25 °C (77 °F)(1)	≤ 2 ms	–	4.0 A	(4) M12

(1) Includes offset, gain, non-linearity, and repeatability error terms.

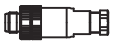
Network, I/O, and Auxiliary Power Connector Types and Quantity on Modules

Catalog Number	 Network Connectors (1 or 2)	 I/O Connectors (4 or 8)	 Auxiliary Power Connectors (1 or 2)
1732E-OB16M12	D-code M12 – (2) Female	5-Pin M12 (Micro) – (8) Female	4-Pin Mini – (1) Male
1732E-OB16M12DR	D-code M12 – (2) Female	5-Pin M12 (Micro) – (8) Female	4-Pin Mini – (1) Male
1732E-OB16M12R	D-code M12 – (2) Female	5-Pin M12 (Micro) – (8) Female	4-Pin Mini – (1) Male
1732E-8CFGM8R	D-code M12 – (2) Female	3-Pin M8 (Pico) – (8) Female	4-Pin M12 (Micro) – (1) Male and (1) Female
1732E-16CFGM12	D-code M12 – (1) Female	5-Pin M12 (Micro) – (8) Female	4-Pin Mini – (1) Male
1732E-16CFGM12W	D-code M12 – (1) Female	5-Pin M12 (Micro) – (8) Female	4-Pin Mini – (1) Male
1732E-16CFGM12R	D-code M12 – (2) Female	5-Pin M12 (Micro) – (8) Female	4-Pin Mini – (1) Male
1732E-16CFGM12QCR	D-code M12 – (2) Female	5-Pin M12 (Micro) – (8) Female	4-Pin Mini – (1) Male and (1) Female
1732E-16CFGM12QCWR	D-code M12 – (2) Female	5-Pin M12 (Micro) – (8) Female	4-Pin Mini – (1) Male and (1) Female
1732E-16CFGM12P5QCR	D-code M12 – (2) Female	5-Pin M12 (Micro) – (8) Female	5-Pin Mini – (1) Male and (1) Female
1732E-16CFGM12P5QCWR	D-code M12 – (2) Female	5-Pin M12 (Micro) – (8) Female	5-Pin Mini – (1) Male and (1) Female
1732E-12X4M12P5QCDR	D-code M12 – (2) Female	5-Pin M12 (Micro) – (8) Female	5-Pin Mini – (1) Male and (1) Female
1732E-IF4M12R	D-code M12 – (2) Female	5-Pin M12 (Micro) – (4) Female	4-Pin M12 (Micro) – (1) Male and (1) Female
1732E-OF4M12R	D-code M12 – (2) Female	5-Pin M12 (Micro) – (4) Female	4-Pin M12 (Micro) – (1) Male and (1) Female
1732E-IR4IM12R	D-code M12 – (2) Female	5-Pin M12 (Micro) – (4) Female	4-Pin M12 (Micro) – (1) Male and (1) Female
1732E-IT4IM12R	D-code M12 – (2) Female	5-Pin M12 (Micro) – (4) Female	4-Pin M12 (Micro) – (1) Male and (1) Female

Select Network Cables

For specific catalog numbers of the cables, refer to the On-Machine Connectivity catalog, publication M117-CA001, at the chapter and page numbers listed in the table below.

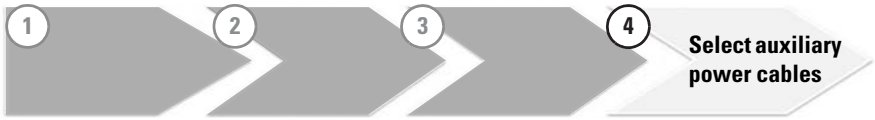
Analog I/O Connections – M12 (DC Micro)

ArmorBlock Catalog Number	 Recommended Male Cordset	 Recommended Patchcord	 Recommended Field Attachable Connector
1732E-IR4IM12R 1732E-IF4M12R 1732E-OF4M12R	889D-M4SC–[1]	889D-F4SCDM–[2]	889D-M4DC-SH
1732E-IT4IM12R	–	–	871A-TS4CJC-DM (Cold-Junction Compensation)

(1) Length in meters (2, 5, and 10 standard).

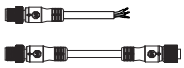
(2) Length in meters (1, 2, 3, 5, and 10 standard).

Select Auxiliary Power Cables



For specific catalog numbers of the cables, refer to the On-Machine Connectivity catalog, publication M117-CA001, at the chapter and page numbers listed in the table below.

Auxiliary Power Connections – Mini or M12 (DC Micro)

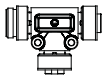
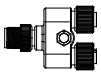
Connector Style	 Cordsets and Patchcord
Mini	See Cordsets & Patchcords, Auxiliary Power on page 6-55...58.
M12 (DC Micro)	

Select Accessories

T-Port

T-ports can be used as an alternative method to connect the I/O module to the network or power trunk line. They can also be used to provide an additional connection to daisy-chain with another I/O module. This is useful if your I/O module has only one network or auxiliary power connector. For information on how T-ports are used in a typical configuration, refer to Network Configuration Examples on page 27.

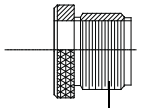
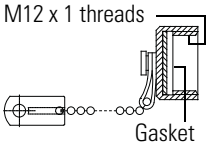
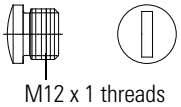
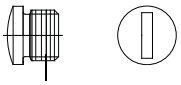
For specific catalog numbers of the accessories, refer to the On-Machine Connectivity catalog, publication M117-CA001, at the chapter and page numbers listed in the table below.

T-Port Use	 Mini	 M12 (Micro)
Device Drop (Network or I/O)	See T-Port, Round Media on page 6-41...42.	–
Auxiliary Power	See Trunk Tee, Auxiliary Power on page 6-61...62.	

Cold-Junction Compensation (CJC) Terminal Chamber

Face of Terminal Chamber	Style	Cable Jacket Diameter – mm (in.)	Rating	Catalog Number
	Straight	3.0...6.5 (0.12...0.26)	250V, 4 A	871A-TS4CJC-DM
	Right angle			871A-TR4CJC-DM
For use with ArmorBlock 24V DC, Thermocouple, 4 point module				1732E-IT4IM12R

Sealing Caps

Connector Style	Material	Thread Type	Dimensions [mm (in.)]	Catalog Number	Thread Type	Dimensions [mm (in.)]	Catalog Number
DC Micro	Aluminum	External	 M12 x 1 threads	1485A-C3	Internal	 M12 x 1 threads Gasket	889A-DCAP
	Plastic		 M12 x 1 threads	1485A-M12	–	–	–
Pico	Plastic	External	 M12 x 1 threads	889A-PMCAP	–	–	–

Labels

Each module comes with a set of labels (one per I/O connector). Additional labels are available for purchase if required.

Catalog Number	Description
1492-MD6X9	Snap-in individual marker card[1]

(1) Provides labelling for the terminal blocks to allow for easy identification and description.

Thermocouple/RTD Modules

General Specifications

Attribute	1732E-IR4IM12R	1732E-IT4IM12R
Number of inputs	4, isolated	
Voltage, on-state, max	30V DC	
Voltage, on-state, min	12V DC	
Module power	12...30V DC @ 300 mA	
Power consumption	3W @ 24V DC, typical 3.5 W, max (module unloaded)	
Isolation voltage	50V (continuous), Basic Insulation Type Type tested @ 70V DC for 60 s	
Resolution, min	16 bits	
Data format	16-bit sign magnitude	Signed integer
Accuracy	0.1% Full Scale @ 25 °C (77 °F)	
Accuracy drift with temperature, max.	30 ppm % Full Scale /°C @ 25 °C (77 °F)	
Calibration	Factory calibrated. Calibration is also supported through RSLogix 5000.	
Rejection mode, common mode	120 dB @ 50/60 Hz	
Rejection mode, normal mode	100 dB @ 50/60 Hz	
Sample Rate Filters[1]	50 Hz 60 Hz 250 Hz 500 Hz	
Voltage, auxiliary power, max	30V DC	
Voltage, auxiliary power, min	12V DC	
Current per module, output, auxiliary power, max	4 A	
Current, Ethernet system power, max	1.2 A	
Current per input, sensor source, max	50 mA	
Current per connector, sensor source, max	100 mA	
Communication rate	EtherNet/IP 10/100 Mbps Full or half-duplex 100 meter per segment	
Enclosure type rating	Meets IP65/66/67/69K	
Wiring category[2]	1 – on power ports 1 – on signal ports 1 – on communication ports	
Indicators	Module status – red/green Network status – red/green Link status – green/yellow Auxiliary power – green I/O LED – yellow	

(1) Sample Rate/Notch Filter Frequency, selectable per channel.

(2) Use this Conductor Category information for planning conductor routing. Refer to Publication 1770-4.1, Industrial Automation Wiring and Grounding Guidelines.

General Specifications

1732E-IT4IM12R only				
Thermocouple type, input range	**Type**	**Material**	**Temperature Range °C (°F)**	**Voltage Range (mV)**
	B	Pt/30% Rh vs. Pt/5% Rh	40...1820 (104...3308)	0...13.820
	C	W/5% Re vs. W/26% Re	0...2320 (32.4208)	0...37.107
	E	Ni/Cr vs. Cu/Ni	-270...1000 (-454...1832)	-9.835...76.373
	J	Ni/Cr vs. Cu/Ni	-210...1200 (-346...2192)	-8.095...69.553
	K	Ni/Cr vs. Ni/Al	-270...1372 (-454...2501.6)	-6.458...54.886
	N	Ni/14.2%, Cr/1.4%Si vs. Ni/4.4%, Si/0.1%Mg	-270...1300 (-454...2372)	-4.345...47.513
	R	Pt/13% Rh vs. Pt	-50...1768 (-58...3214.4)	-0.226...21.101
	S	Pt/10% Rh vs. Pt	-50...1768 (-58...3214.4)	-0.236...18.639
	T	Cu vs. Cu/Ni	-270...400 (-454...752)	-6.258...20.872
CJC Terminal Chamber recommended	Rockwell Automation 871A-TS4CJC-DM, 871A-TR4CJC-DM			
Cold junction compensation range	0...70 °C (32...158 °F) for 302 type thermistors			
Cold junction compensation modes	Average Selected, Channel Independent, and CJC Offset (For more information, see the User Manual, publication 1732E-UM004)			
Thermistor types supported	Thermometrics MF65F302V/W or DC95F302V/W			
Input voltage range	±78.125 mV 0...78.125 mV			
1732E-IR4IM12R only				
Sensor type, input range	**RTD type**		**Temperature Range (°C)**	**Voltage Range (mV)**
	100 Ω Pt 385	0...390.48 Ω	-200...850 (-328...1562)	0...156.25
	200 Ω Pt 385	0...781 Ω	-200...850 (-328...1562)	0...312.5
	100 Ω Pt 3916	0...337.03 Ω	-200...630 (-328...1166)	0...156.25
	200 Ω Pt 3916	0...674.06 Ω	-200...630 (-328...1166)	0...312.5
	10 Ω Cu 427	0...19.116 Ω	-320...500 (-544...932)	0...19.53
	120 Ω ni 672	0...445.10 Ω	-70...445 (-94...833)	0...156.25
	100 Ω Ni 618	0...198.88 Ω	-60...180 (-76...356)	0...78.125
	120 Ω Ni 618	0...238.65 Ω	-90...140 (-130...284)	0...78.125