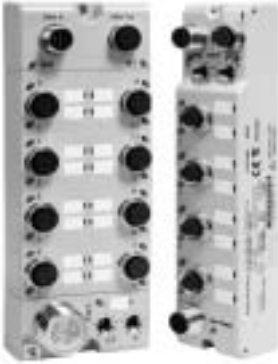


ArmorBlock I/O



ArmorBlock™ I/O

The 1732 ArmorBlock I/O modules have a compact style with a low profile. 1732 ArmorBlock modules are packaged in a sealed housing rated for IP 69K and NEMA 4X. A 1732 ArmorBlock I/O module contains digital I/O circuits, a built-in power supply, and a built-in DeviceNet, EtherNet/IP, or Profibus DP I/O adaptor. The DeviceNet network supplies power to the ArmorBlock system and on some models also to the I/O. On those units with DeviceNet network powered I/O, a diagnostic bit is provided for short circuits and overcurrent. Inputs and outputs are powered by an external 24V DC source which is independent of the network. An external 24V DC power source is required for Profibus DP.

I/O blocks are available with 8 or 16 I/O points. Electronic fusing provides protection for output load devices and easy resetting. Units are available as 8 or 16 inputs, 8 or 16 outputs or 8 or 16 self-configuring modules. The self-configuring modules contain both input and output functionality. With these self-configuring modules, the user is not required to “configure” anything and any combination of input and outputs are available (e.g., 7+1, 11+5, 4+4). The self-configuring units have automatic output monitoring.

1732 ArmorBlock I/O modules are designed for back-panel or On-Machine mounting. The 8 point modules can be front or side mounted, the 8 or 16 point modules can be horizontally or vertically

Specifications

Enclosure Type Rating	IP 69K and NEMA 4X
Mounting Type	Panel, On-Machine
Operating Temperature—C (F)	IEC 60068–2–1 (Test Ad, Operating Cold), IEC 60068–2–2 (Test Bd, Operating Dry Heat), IEC 60068–2–14 (Test Nb, Operating Thermal Shock): –20...60° (–4...140°)
Storage Temperature—C (F)	IEC 60068–2–1 (Test Ab, Unpackaged Nonoperating Cold), IEC 60068–2–2 (Test Bb, Unpackaged Nonoperating Dry Heat), IEC 60068–2–14 (Test Na, Unpackaged Nonoperating Thermal Shock): –45...85° (–49...185°)
Relative Humidity	IEC 60068–2–30 (Test Db, Unpackaged Nonoperating Damp Heat): 5...95% noncondensing
Shock, Operating	IEC 60068–2–27 (Test Ea, Unpackaged Shock): 30 G
Shock, Non-Operating	IEC 60068–2–27 (Test Ea, Unpackaged Shock): 50 G
Vibration	IEC 60068–2–6 (Test Fc, Operating): 5G @ 10...500 Hz
Certifications	cULus, CE, C-Tick
Dimensions (HxWxD), Approx.	8 point: 48 x 69 x 174 mm (1.9 x 2.7 x 6.9 in) 16 point: 43 x 69 x 179 mm (1.7 x 2.5 x 7.0 in)

When product is marked. See the Product Certification link at www.ab.com for Declarations of Conformity, Certificates, and other certification details.

mounted. Enclosure costs are eliminated because each block is packaged in a rated sealed housing. I/O terminations are DC micro (M12) quick-disconnects or pico (M8) quick-disconnects. These modules do not require a separate base.

Armor WeldBlock I/O

The 1732 Armor WeldBlock is designed for use in typical welding applications. The design resists the effects of weld slag and magnetic fields found in close proximity to the weld head. The sealed IP 67, light-weight metal housing, of plated aluminum, protects the electronics which are the same as those in other 1732 ArmorBlocks and is ideal for end-of-arm robot applications. Armor WeldBlocks are available in DeviceNet and EtherNet I/P with 24V DC, 16 point inputs only or 16 point self-configuring I/O. I/O and network connections are DC Micro (M12).

Features

- Sealed housing rated for IP 69K and NEMA 4X eliminate enclosure costs.
- Low installation cost and easy to replace without rewiring because industry-standard mini or M12 DC micro connectors are used for connection to the DeviceNet network and auxiliary power supply. I/O connectors are sealed M8 pico or M12 DC micro styles.
- 8 and 16 point self-configuring I/O allows input/output mix to a granularity of one.
- Removal and Insertion Under Power (RIUP) makes it possible to replace a module without impacting the network operation.
- Isolated auxiliary power maintains power to the outputs if main power fails so that you can have the option of holding outputs in their last state.
- Outputs electronically protected
- Complies with Open DeviceNet Vendor Association, Inc. (ODVA) conformance test software.

1732 ArmorBlock I/O

DeviceNet™ Digital I/O, Standard and Diagnostic

Digital I/O Blocks

DeviceNet, 24V DC, 8 and 16 Point

Inputs— Sink	Outputs— Source	Max. Continuous Output Current Rating per Point/Module	Max. Surge/Inrush Output Current Rating per Point	Max. Current for Input Device Power per Point	Potential Max. Aux. Current per Module	Network Current Draw	I/O Connectors	Cat. No.
8	0	NA	NA	0.8 A	0.45 A	100 mA	(8) M8	1732D-IB8M8
							(4) M12	1732D-IB8M12
0	8	0.5/4.0 A	1.2 A	NA	4.0 A	100 mA	(8) M8	1732D-OB8EM8
							(4) M12	1732D-OB8EM12
8 self-configuring ①		0.5/4.0 A	1.2 A	0.8 A	4.0 A	100 mA	(8) M8	1732D-8CFGM8
							(4) M12	1732D-8CFGM12
16	0	NA	NA	0.8 A	0.9 A	75 mA	(8) M12	1732D-IB16M12M12
								1732D-IB16M12MINI
0	16 ①	2.0/8.0 A ①	4.8 A	NA	0.1 A/8.0 A ②	100 mA	(8) M12	1732D-OB16M12M12
								1732D-OB16M12MINI
16 self-configuring ③		0.5/8.0 A	1.2 A	0.8 A	0.9 A/8.0 A ②	100 mA	(8) M12	1732D-16CFGM12M12
								1732D-16CFGM12MN

Digital I/O Blocks with Network Powered I/O and Diagnostics

DeviceNet, 24V DC, 16 Point

I/O diagnostics provide one fault bit per modules to indicate a short circuit or overcurrent on any I/O point. Inputs and/or outputs powered by network where noted.

Inputs— Sink, Powered by Network	Outputs— Source	Max. Continuous Output Current Rating per Point/Module	Max. Surge/Inrush Output Current Rating per Point	Max. Current for Input Device Power per Point	Potential Max. Aux. Current per Module	Max. Network Current Draw for Module Operation Plus I/O	I/O Connectors	Cat. No.
8 (2 each on 4 connectors)	8 (2 each on 4 connectors)	0.5/4.0 A	1.2 A	0.8 A	4.0 A	0.1 A + I/O (1.0 A max.)	(8) M12	1732D-8X81212D
8 (2 each on 4 connectors)	8 (2 each on 4 connectors)	1.4A/8.0 A ③	3.1 A	0.8 A	8.0 A	0.1 A + I/O (1.0 A max.)	(8) M12	1732D-8X81212HD
8 (1 on each connector)	8 (1 on each connector and powered by network)	0.5/4.0 A	1.2 A	0.8 A	NA	0.1 A + I/O (5.0 A max.)	(8) M12	1732D-8I8O1212D
16 powered by network	0	NA	NA	0.8 A	NA	75 mA + I/O (0.95 A max.)	(8) M12	1732D-IB161212D

① Maximum current on all I/O connectors exceeds total for the module.

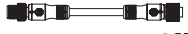




② Module operation power and input device power, from Auxiliary Power Connector pins 2 and 3, are separate and isolated from the I/O output power, from Auxiliary Power Connector pins 1 and 4. Both auxiliary power consumption totals need to be noted.

③ Maximum current on all I/O connectors exceeds total for the module.

④ Each of the self-configuring I/O points can be either an input (sink) or an output (source), e.g. 16 points: 13 in – 3 out, 6 in – 10 out, etc. or 8 points: 6 in – 2 out, 1 in – 7 out, etc.

Mating Cables

I/O Connections—DC Micro (M12) or Pico (M8)

ArmorBlock Cat. No.	End Device Connector and Quantity	889  879 		889  879 		871 	
		Recommended Patchcord or V-Cable (Double-Ended)	Page Ref	Recommended Male Cordset or V-Cable (Single-Ended)	Page Ref	Recommended Male Field Attachable Connector	Page Ref
1732D-IB8M8 1732D-OB8EM8 1732D-8CFGM8	(1) DC Micro	889D-F4ABP3M-*	3-109	889P-M3AB-‡	3-107	871A-TS3-PM	3-121
	(1) Pico 3-pin	889P-F3ABPM-*	3-107				
	(1) Pico 4-pin	889P-F4ABPM3-*	3-107				
1732D-IB8M12 1732D-OB8EM12 1732D-8CFGM12 1732D-IB16M12M12 1732D-IB16M12MINI 1732D-OB16M12M12 1732D-OB16M12MINI	(2) DC Micro	879D-F4ACDM-*	3-61	879D-C3ACD4M-‡	3-61	871A-VS4-DM	3-77
	(2) Pico 3-pin	879PZ-F3ABDM4-*	3-113				
	(2) Pico 4-pin	879PZ-F4ABDM-*	3-113				
	(1) DC Micro	889D-F4ACDM-*	3-47				
1732D-16CFGM12M12 1732D-16CFGM12MN 1732D-8X81212D 1732D-8I8O1212D 1732D-8X81212HD 1732D-IB161212D	(1) Pico 3-pin	889P-F3ABDM4-*	3-57	889D-M4AC-‡	3-47	871A-TS4-DM	3-77
	(1) Pico 4-pin	889P-F4ABDM-*	3-57				
	(1) DC Micro	889D-F4ACDM-*	3-47				

DeviceNet Network Connections—Mini or Micro (M12)

ArmorBlock Cat. No.	Network Connection	Flat Media	Page Ref	Thick Round	Page Ref	Thin Round	Page Ref
1732D-IB16M12MINI 1732D-OB16M12MINI 1732D-16CFGM12MN	Mini	1485K-P§F5-N5	6-17	1485R-P§N5-M5	6-27	1485R-P§D5-N5	6-27
All other 1732D	Micro	1485K-P§F5-R5	6-17	1485R-P§M5-R5	6-27	1485R-P§R5-D5	6-27

Auxiliary Power Connections—Mini or Micro (M12)

ArmorBlock Cat. No.	ArmorBlock Aux. Power Connector Style	Flat Media		Round Media			
		Auxiliary Power Flat Media Connection	Page Ref	Thick Round	Page Ref	Thin Round	Page Ref
1732D-IB8M12 1732D-OB8EM12 1732D-8CFGM12 1732D-IB8M8 1732D-OB8EM8 1732D-8CFGM8	4-Pin DC Micro	889D-F2ACDM-K§	6-19	Cordset: 889D-F2AC-‡ Patchcord: 889D-F2AEN4M-D§	6-51	Cordset: 889D-F4AC-‡ Patchcord: 889D-F4ACDM-*	3-47
1732D-IB16M12M12 1732D-IB16M12MINI 1732D-OB16M12M12 1732D-OB16M12MINI 1732D-16CFGM12M12 1732D-16CFGM12MN 1732D-8X8M12M12D 1732D-8X8M12M12HD	4-Pin Mini	1485T-PIE4-C§N4	6-20	Cordset: 889N-F4AFC-★F Patchcord: 889N-F4AFNM-*	6-51	Terminal Chamber: 871A-TS4-N1	3-29
1732D-8I8OM12M12D 1732D-IB16M12M12D		Not applicable, inputs/outputs powered by network					

* = length in meters (1, 2, 3, 5, and 10 standard).

§ = length in meters (1, 2, 3, 4, 5, and 6 standard).

‡ = length in meters (2, 5, and 10 standard).

★ = length in feet (6, 12, and 20 standard).

Note: The mating cables shown on this page represent straight PVC models. For additional configurations, materials, and specifications, please consult "Page Ref" listed in the above tables.

1732 ArmorBlock I/O

DeviceNet™ and EtherNet/IP, WeldBlocks and Profibus DP

EtherNet/IP & Profibus DP Digital I/O Blocks

EtherNet/IP, 24V DC, 16 Point

Inputs— Sink	Outputs— Source	Max. Output Current per Point/Module	Max. Output Surge/Inrush Current per Point	Max. Current for Input Device Power per Point	Potential Max. Aux. Current per Module	I/O Connectors	Cat. No.
16	0	NA	NA	0.8 A	1.1 A	(8) M12	1732E-IB16M12
0	16	2.0/8.0 A ①	4.8 A	NA	1.15 A/8.0 A ②	(8) M12	1732E-OB16M12
16 self-configuring ③		0.5/8.0 A	1.2 A	0.8 A	1.15 A/8.0 A ②	(8) M12	1732E-16CFGM12

Profibus DP, 24V DC, 8 and 16 Point Digital I/O Blocks

Inputs— Sink	Outputs— Source	Max. Cont. Output Current Rating per Point/Module	Max. Surge/ Inrush Output Current Rating per Point	Max. Current for Input Device Power per Point	Potential Max. Aux. Current per Module	I/O Connectors	Cat. No.
8	0	NA	NA	0.8 A	0.45 A	(8) M8	1732P-IB8M8
						(4) M12	1732P-IB8M12
0	8	0.5/4.0 A	1.2 A	NA	4.0 A	(8) M8	1732P-OB8EM8
						(4) M12	1732P-OB8EM12
8 self-configuring ③		0.5/4.0 A	1.2 A	0.8 A	4.0 A	(8) M8	1732P-8CFGM8
						(4) M12	1732P-8CFGM12
16	0	NA	NA	0.8 A	1.0 A	(8) M12	1732P-IB16M12
0	16	2.0/8.0 A ①	4.8 A	NA	0.2/8.0 A ②	(8) M12	1732P-OB16M12
16 self-configuring ③		0.5/8.0 A	1.2 A	0.8 A	1.0/8.0 A ②	(8) M12	1732P-16CFGM12

Armor WeldBlock

DeviceNet WeldBlocks, 24V DC, 16 Point

Inputs— Sink	Outputs— Source	Max. Cont. Output Current Rating per Point/Mod.	Max. Surge/ Inrush Output Current Rating per Point	Max. Current for Input Device Power per Point	Potential Max. Aux. Current per Module	Network Current Draw	I/O Connectors	Cat. No.
16	0	NA	NA	0.8 A	0.9 A	75m A	(8) M12	1732D-IB16I212W
16 self-configuring ③		0.5/8.0 A	1.2 A	0.8 A	0.9/8.0 A ②	100m A	(8) M12	1732D-16CFG1212W

EtherNet/IP WeldBlocks, 24V DC, 16 Point

Inputs— Sink	Outputs— Source	Max. Output Current per Point/Module	Max. Output Surge/Inrush Current per Point	Max. Current for Input Device Power per Point	Potential Max. Aux. Current per Module	I/O Connectors	Cat. No.
16	0	NA	NA	0.8 A	1.1 A	(8) M12	1732E-IB16M12W
16 self-configuring ③		0.5/8.0 A	1.2 A	0.8 A	1.15/8.0 A ②	(8) M12	1732E-16CFGM12W

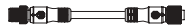
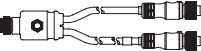

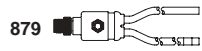

① Maximum current on all I/O connectors exceeds total for the module.

② Module operation power and input device power, from Auxiliary Power Connector pins 2 and 3, are separate and isolated from the I/O output power, from Auxiliary Power Connector pins 1 and 4. Both auxiliary power consumption totals need to be noted.

③ Each of the self-configuring I/O points can be either an input (sink) or an output (source), e.g. 16 points: 13 in – 3 out, 6 in – 10 out, etc. or 8 points: 6 in – 2 out, 1 in – 7 out, etc.

Mating Cables

I/O Mating Cables, DC Micro (M12) or Pico (M8)

ArmorBlock Cat. No.	End Device Connector and Quantity	889  879 		889  879 		871 	
		Recommended Patchcord or V-cable (Double-ended)	Page Ref	Recommended Male Cordset or V-cable (Single-ended)	Page Ref	Recommended Male Field Attachable Connector	Page Ref
1732E-*****	(2) DC Micro	879D-F4ACDM-*	3-109	879D-C3ACD4M-‡	3-107	871A-VS4-DM	3-121
1732D-IB16M12M12W 1732D-16CFG12M12W	(2) Pico 3-pin	879PZ-F3ABDM4-*	3-107				
1732P-IB8M12	(2) Pico 4-pin	879PZ-F4ABDM-*	3-107	889D-M4AC-‡	3-61	871A-TS4-DM	3-77
1732P-0B8EM12	(1) DC Micro	889D-F4ACDM-*	3-61				
1732P-8CFG12	(1) Pico 3-pin	889P-F3ABDM4-*	3-113				
1732P-IB16M12	(1) Pico 3-pin	889P-F4ABDM-*	3-113	889P-M3AB-‡	3-47	871A-TS3-PM	3-77
1732P-0B16M12	(1) DC Micro	889D-F4ABP3M-*	3-47				
1732P-16CFG12	(1) Pico 4-pin	889P-F3ABPM-*	3-57				
1732P-IB8M8	(1) Pico 3-pin	889P-F4ABPM3-*	3-57				
1732P-0B8EM8	(1) Pico 4-pin						
1732P-8CFG8							

Network Mating Cables, DeviceNet Micro, EtherNet M12, or Profibus DP Micro

ArmorBlock Cat. No.	Network Connector Type	Flat Media	Page Ref	Thick Round	Page Ref	Thin Round	Page Ref
1732D-IB161212W 1732D-16CFG1212W	DeviceNet (Micro)	1485K-P★F5-R5	6-17	1485R-P★M5-R5	6-27	1485R-P★R5-D5	6-27
1732E-IB16M12 1732E-OB16M12 1732E-16CFG12 1732E-IB16M12W 1732E-16CFG12W	EtherNet/IP (EtherNet M12)	—	—	—	—	1585D-M4DC-H	6-61
1732P-*****	Profibus DP Micro (reverse key M12)	—	—	—	—	—	—

Auxiliary Power Mating Cables, Mini or DC Micro (M12)

ArmorBlock Cat. No.	Aux. Power Connection Type	Flat Media		Round Media			
		Auxiliary Power Flat Media Connection	Page Ref	Thick Round	Page Ref	Thin Round	Page Ref
1732E-***** 1732D-IB16M12M12W 1732D-16CFG12M12W 1732P-IB16M12 1732P-0B16M12 1732P-16CFG12	4-pin Mini	1485T-P1E4-C§-N4	6-20	Cordset: 889N-F4AFC-§ Patchcord: 889N-F4AFNM-*	6-51	Terminal Chamber: 871A-TS4-N1	3-29
1732P-IB8M8 1732P-IB8M12 1732P-0B8EM8 1732P-0B8EM12 1732P-8CFG8 1732P-8CFG12	4-pin DC Micro	889D-F2ACDM-K*	6-19	Cordset: 889D-F4AC-‡ Patchcord: 889D-F2AEN4M-D*	6-51	Cordset: 889D-F4AC-‡ Patchcord: 889D-F4ACDM-*	3-47

* = length in meters (1, 2, 3, 5, and 10 standard).

‡ = length in meters (2, 5, and 10 standard).

§ = length in meters (1, 2, 3, 4, 5, and 6 standard).

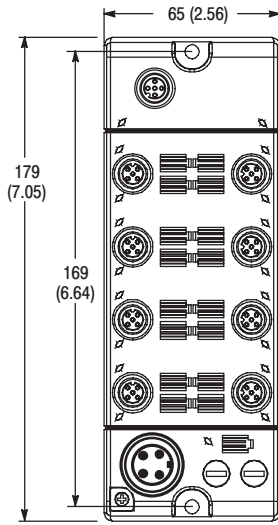
★ = length in feet (6, 12, and 20 standard).

Note: The mating cables shown on this page represent straight PVC models. For additional configurations, materials, and specifications, please consult "Page Ref" listed in the above tables.

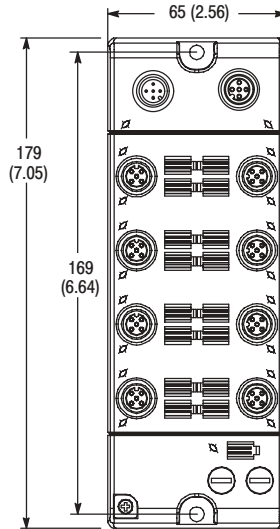
1732 ArmorBlock I/O

Dimensions and Keyway Orientations

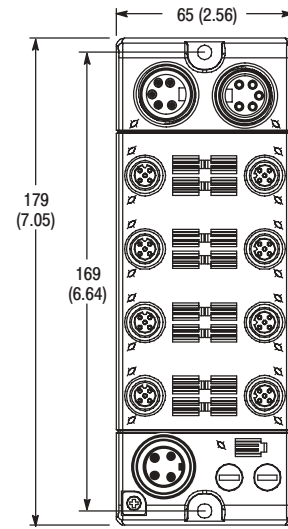
Dimensions—mm (in)



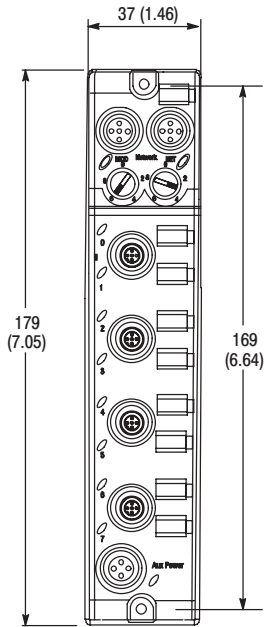
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1732E-OB16EM12
1732E-16CFGM12
1732E-IB15M12W
1732E-16CFGM12W



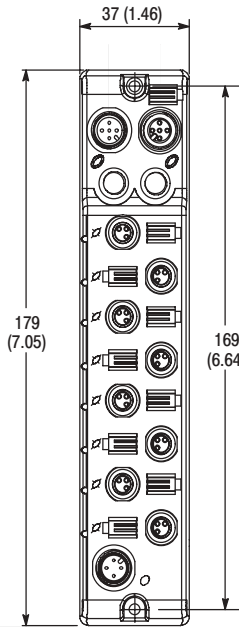
1732D-8I8OM12M12D
1732D-8I8O1212D
1732D-IB161212D



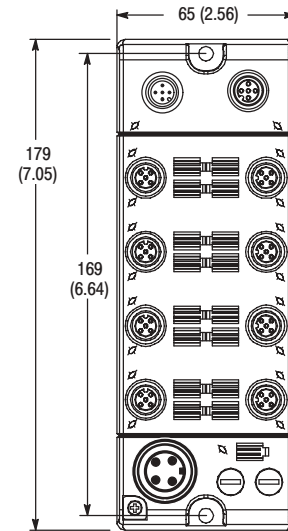
1732D-IB16M12MINI
1732D-OB16M12MINI
1732DE-16CFGM12MN



1732D-IB8M12
1732D-OB8EM12
1732D-8CFGM12
1732P-IB8M12
1732P-OB8EM12
1732P-8CFGM12



1732D-IB8M8
1732D-OB8EM8
1732D-8CFGM8
1732P-IB8M8
1732P-OB8EM8
1732P-8CFGM8



1732D-IB16M12M12
1732D-OB16M12M12
1732D-16CFGM12M12
1732D-8X81212D
1732D-8X81212HD
1732D-IB161212W
1732D-16CFG1212M12
1732P-IB16M12
1732P-OB16M12
1732P-16CFGM12