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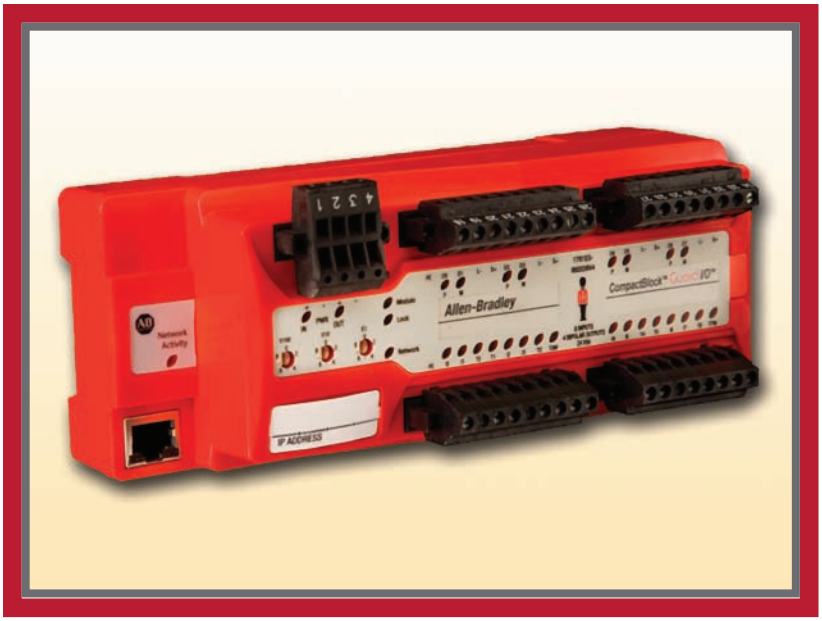
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LISTEN. THINK. SOLVE.®

PRODUCT PROFILE

1791ES CompactBlock™ Guard I/O™

Improve productivity; simplify control system design, while enhancing operator protection



Benefits

- **I/O point level diagnostics and LEDs:** quickly identify a problem and help reduce machine downtime
- **TÜV certified:** for use in safety applications, up to SIL3 and CAT 4
- **Versatility:** can connect to both standard and safety-rated sensors
- **Easy Configuration:** via RSLogix™ 5000 with full support of IP addressing
- **Flexibility:** supports connection of single and dual channel safety devices on inputs and outputs
- **Individual Test Outputs:** An individual test output can be assigned for each safety input device, allowing for optimized cable installations.
- **Muting Lamp control:** provided on selected test pulse outputs for lamp control and fault monitoring
- **Standard control:** use test outputs for panel lamps, standard actuators, etc.
- **Compatilbilty** – EtherNet/IP is standard Ethernet and can be used with standard media i.e. fiber, wireless, etc.

CompactBlock™ Guard I/O™ on EtherNet/IP is a safety rated I/O module designed for use in safety applications. It communicates on EtherNet/IP using the CIP Safety protocol and is optimized to work with GuardLogix® controllers.

The application of the CIP Safety protocol enables the simultaneous transmission of safety and standard control data and diagnostics information over a common EtherNet/IP network. EtherNet/IP enables a flat network topology by reducing the number of networks for different control disciplines and also by allowing standard and safe control on the same network.

CompactBlock Guard I/O on EtherNet/IP is ideal for applications where Ethernet technology is preferred or for applications requiring highly distributed I/O blocks close to sensors and actuators. The compact footprint and solid-state design allows for module replacement in minutes and reduces the need for special maintenance or training.

CompactBlock Guard I/O is designed for use with industrial equipment and is especially suited for robotic, point-of operation, guard-monitoring and distributed control applications covering long distances.

PRODUCT SPECIFICATIONS

Cat. No.	1791ES-IB16	1791ES-IB8X0BV4
Description	24V dc Input Module on Ethernet/IP Networks	24V dc Input/Solid-State Output Module on Ethernet/IP Networks
Current Consumption	250 mA @ 24V dc	250 mA @ 24V dc
Operating Voltage Range	19.2…28.8V dc (24V dc, -20…+20%)	19.2…28.8V dc (24V dc, -20…+20%)
I/O Channel Isolation	Isolated	Isolated
Digital Inputs		
Number of Inputs (single-channel)	16 safety	8 safety
Voltage, On-State Input, Min.	11 V dc	11 V dc
Voltage, Off-State Input, Max.	5V dc	5V dc
Current, On-State Input, Min.	3.3 mA	3.3 mA
Input Delay Time, OFF to ON[1]	16.2 ms max	16.2 ms max
Input Delay Time, ON to OFF[1]	16.2 ms max	16.2 ms max
Digital Outputs		
Number of Outputs	—	4 dual channel Bipolar
Output Type	—	current sourcing/current sinking pair
Output Current Rating	—	2 A max. per point 8 A total module @ 40 °C (104 °F) 6 A total module @ 60 °C (140 °F)
Output Leakage Current, Max.	—	± 1.0 mA
Output Delay Time, OFF to ON, Max.	—	6.2 ms
Output Delay Time, ON to OFF, Max.	—	6.2 ms
Short Circuit Protection	—	Yes
Overcurrent Detection	—	Yes
Standard Pulse Test Outputs		
Number of Pulse Test Sources	16	8
Pulse Test Output Current	0.7 A per point	0.7 A per point
Pulse Test Output Leakage Current, Max.	0.1 mA	0.1 mA
Short Circuit Protection	Yes	Yes
Overcurrent Protection	Yes	Yes
General		
Operating Temperature	-20°C…+60°C (-4°F…+140°F)	-20°C…+60°C (-4°F…+140°F)
Storage Temperature	-40°C…+85°C (-40°F…+185°F)	-40°C…+85°C (-40°F…+185°F)
Relative Humidity	5…95% noncondensing	5…95% noncondensing
Vibration	5 g @ 10…500 Hz	5 g @ 10…500 Hz
Shock, Operating	30 g	30 g
Enclosure Protection	IP 20	IP 20
Dimensions (HxWxD), Metric	80 x 196 x 77 mm[1]	80 x 196 x 77 mm[1]
Dimensions (HxWxD), Imperial	3.2 x 7.7 x 3 in[1]	3.2 x 7.7 x3 in[1]
Weight, Metric	600 g	600 g
Weight, Imperial	1.32 lb	1.32 lb
Certifications[2]	UL, CE, C-Tick, CSA, UL Class I Div 2 Hazardous, UL NRGF, ODVA Conformance, TÜV certified for functional safety up to SIL 3, Cat. 4	

[1] *Includes DIN latch and connectors.*

[2] *When product is marked. See the Product Certification link at http://www.ab.com/certification for Declarations of Conformity, Certificates, and other certification details.*

All specifications are subject to change. Refer to product installations instructions.

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