

CompactBlock Guard I/O 2-Channel Incremental Encoder Synchronous Serial Interface Module

Catalog Number 1791ES-ID2SSIR

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The 1791ES-ID2SSIR module is a 2-channel incremental encoder synchronous serial interface (SSI) module. Use this safety module to distribute safety I/O on a safety control network that meets the requirements up to and including:

- SIL 3 as defined in IEC 61508
- SIL CL 3 as defined in IEC 62061
- PLe, cat. 4 as defined in ISO 13849-1.



ATTENTION: Read this document and the documents listed in the Additional Resources section about installation, configuration and operation of this equipment before you install, configure, operate or maintain this product. Users are required to familiarize themselves with installation and wiring instructions in addition to requirements of all applicable codes, laws, and standards.

Activities including installation, adjustments, putting into service, use, assembly, disassembly, and maintenance are required to be carried out by suitably trained personnel in accordance with applicable code of practice.

If this equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

注意: 在安装、配置、操作和维护本产品前, 请阅读本文档以及“其他资源”部分列出的有关设备安装、配置和操作的相应文档。除了所有适用规范、法律和标准的相关要求之外, 用户还必须熟悉安装和接线说明。

安装、调整、投运、使用、组装、拆卸和维护等各项操作必须由经过适当训练的专业人员按照适用的操作规范实施。

如果未按照制造商指定的方式使用该设备, 则可能会损害设备提供的保护。

ATENCIÓN: Antes de instalar, configurar, poner en funcionamiento o realizar el mantenimiento de este producto, lea este documento y los documentos listados en la sección Recursos adicionales acerca de la instalación, configuración y operación de este equipo. Los usuarios deben familiarizarse con las instrucciones de instalación y cableado y con los requisitos de todos los códigos, leyes y estándares vigentes.

El personal debidamente capacitado debe realizar las actividades relacionadas a la instalación, ajustes, puesta en servicio, uso, ensamblaje, desensamblaje y mantenimiento de conformidad con el código de práctica aplicable.

Si este equipo se usa de una manera no especificada por el fabricante, la protección provista por el equipo puede resultar afectada.

ATENÇÃO: Leia este e os demais documentos sobre instalação, configuração e operação do equipamento que estão na seção Recursos adicionais antes de instalar, configurar, operar ou manter este produto. Os usuários devem se familiarizar com as instruções de instalação e fiação além das especificações para todos os códigos, leis e normas aplicáveis.

É necessário que as atividades, incluindo instalação, ajustes, colocação em serviço, utilização, montagem, desmontagem e manutenção sejam realizadas por pessoal qualificado e especializado, de acordo com o código de prática aplicável.

Caso este equipamento seja utilizado de maneira não estabelecida pelo fabricante, a proteção fornecida pelo equipamento pode ficar prejudicada.

ВНИМАНИЕ: Перед тем как устанавливать, настраивать, эксплуатировать или обслуживать данное оборудование, прочитайте этот документ и документы, перечисленные в разделе «Дополнительные ресурсы». В этих документах изложены сведения об установке, настройке и эксплуатации данного оборудования. Пользователи обязаны ознакомиться с инструкциями по установке и прокладке соединений, а также с требованиями всех применимых норм, законов и стандартов.

Все действия, включая установку, наладку, ввод в эксплуатацию, использование, сборку, разборку и техническое обслуживание, должны выполняться обученным персоналом в соответствии с применимыми нормами и правилами.

Если оборудование используется не предусмотренным производителем образом, защита оборудования может быть нарушена.

注意: 本製品を設置、構成、稼働または保守する前に、本書および本機器の設置、設定、操作についての参考資料の該当箇所に記載されている文書に目を通してください。ユーザは、すべての該当する条例、法律、規格の要件に加えて、設置および配線の手順に習熟している必要があります。

設置調整、運転の開始、使用、組立て、解体、保守を含む諸作業は、該当する実施規則に従って訓練を受けた適切な作業員が実行する必要があります。

本機器が製造メーカーにより指定されていない方法で使用されている場合、機器により提供されている保護が損なわれる恐れがあります。

ACHTUNG: Lesen Sie dieses Dokument und die im Abschnitt „Weitere Informationen“ aufgeführten Dokumente, die Informationen zu Installation, Konfiguration und Bedienung dieses Produkts enthalten, bevor Sie dieses Produkt installieren, konfigurieren, bedienen oder warten. Anwender müssen sich neben den Bestimmungen aller anwendbaren Vorschriften, Gesetze und Normen zusätzlich mit den Installations- und Verdrahtungsanweisungen vertraut machen.

Arbeiten im Rahmen der Installation, Anpassung, Inbetriebnahme, Verwendung, Montage, Demontage oder Instandhaltung dürfen nur durch ausreichend geschulte Mitarbeiter und in Übereinstimmung mit den anwendbaren Ausführungsvorschriften vorgenommen werden.

Wenn das Gerät in einer Weise verwendet wird, die vom Hersteller nicht vorgesehen ist, kann die Schutzfunktion beeinträchtigt sein.

ATTENTION : Lisez ce document et les documents listés dans la section Ressources complémentaires relatifs à l'installation, la configuration et le fonctionnement de cet équipement avant d'installer, configurer, utiliser ou entretenir ce produit. Les utilisateurs doivent se familiariser avec les instructions d'installation et de câblage en plus des exigences relatives aux codes, lois et normes en vigueur.

Les activités relatives à l'installation, le réglage, la mise en service, l'utilisation, l'assemblage, le démontage et l'entretien doivent être réalisées par des personnes formées selon le code de pratique en vigueur.

Si cet équipement est utilisé d'une façon qui n'a pas été définie par le fabricant, la protection fournie par l'équipement peut être compromise.

주의: 본 제품 설치, 설정, 작동 또는 유지 보수하기 전에 본 문서를 포함하여 설치, 설정 및 작동에 관한 참고 자료 섹션의 문서들을 반드시 읽고 숙지하십시오. 사용자는 모든 관련 규정, 법규 및 표준에서 요구하는 사항에 대해 반드시 설치 및 배선 지침을 숙지해야 합니다.

설치, 조정, 가동, 사용, 조립, 분해, 유지보수 등 모든 작업은 관련 규정에 따라 적절한 교육을 받은 사용자를 통해서만 수행해야 합니다.

본 장비를 제조사가 명시하지 않은 방법으로 사용하면 장비의 보호 기능이 손상될 수 있습니다.

ATTENZIONE Prima di installare, configurare ed utilizzare il prodotto, o effettuare interventi di manutenzione su di esso, leggere il presente documento ed i documenti elencati nella sezione "Altre risorse", riguardanti l'installazione, la configurazione ed il funzionamento dell'apparecchiatura. Gli utenti devono leggere e comprendere le istruzioni di installazione e cablaggio, oltre ai requisiti previsti dalle leggi, codici e standard applicabili.

Le attività come installazione, regolazioni, utilizzo, assemblaggio, disassemblaggio e manutenzione devono essere svolte da personale adeguatamente addestrato, nel rispetto delle procedure previste.

Qualora l'apparecchio venga utilizzato con modalità diverse da quanto previsto dal produttore, la sua funzione di protezione potrebbe venire compromessa.

DIKAT: Bu ürünün kurulumu, yapılandırılması, işletilmesi veya bakımı öncesinde bu dokümanı ve bu ekipmanın kurulumu, yapılandırılması ve işletimi ile ilgili ilave Kaynaklar bölümünde yer listelenmiş dokümanları okuyun. Kullanıcılar yürürlükteki tüm yönetmelikler, yasalar ve standartların gereklerini ek olarak kurulum ve kablolama talimatlarını da öğrenmek zorundadır.

Kurulum, ayarlama, hizmet alma, kullanma, parçaları birleştirme, parçaları sökme ve bakım gibi aktiviteler sadece uygun eğitimleri almış kişiler tarafından yürürlükteki uygulama yönetmeliklerine uygun şekilde yapılabilir.

Bu ekipman üretici tarafından belirlenmiş amacın dışında kullanılırsa, ekipman tarafından sağlanan koruma bozulabilir.

注意事項: 在安装、設定、操作或維護本產品前, 請先閱讀此文件以及列於「其他資源」章節中有關安裝、設定與操作此設備的文件。使用者必須熟悉安裝和配線指示, 並符合所有法規、法律和標準要求。

包括安裝、調整、交付使用、使用、組裝、拆卸和維護等動作都必須交由已經過適當訓練的人員進行, 以符合適用的實作法規。

如果將設備用於非製造商指定的用途時, 可能會造成設備所提供的保護功能受損。

POZOR: Než začnete instalovat, konfigurovat či provozovat tento výrobek nebo provádět jeho údržbu, přečtěte si tento dokument a dokumenty uvedené v části Dodatečné zdroje ohledně instalace, konfigurace a provozu tohoto zařízení. Uživatelé se musejí vedle požadavků všech relevantních vyhlášek, zákonů a norem nutně seznámit také s pokyny pro instalaci a elektrické zapojení.

Činnosti zahrnující instalaci, nastavení, uvedení do provozu, užívání, montáž, demontáž a údržbu musí vykonávat vhodně proškolený personál v souladu s příslušnými prováděcími předpisy.

Pokud se toto zařízení používá způsobem neodpovídajícím specifikaci výrobce, může být narušena ochrana, kterou toto zařízení poskytuje.

UWAGA: Przed instalacją, konfiguracją, użytkowaniem lub konserwacją tego produktu należy przeczytać niniejszy dokument oraz wszystkie dokumenty wymienione w sekcji Dodatkowe źródła omawiające instalację, konfigurację i procedury użytkowania tego urządzenia. Użytkownicy mają obowiązek zapoznać się z instrukcjami dotyczącymi instalacji oraz oprowadowania, jak również z obowiązującymi kodeksami, prawem i normami.

Działania obejmujące instalację, regulację, przekazanie do użytkowania, użytkowanie, montaż, demontaż oraz konserwację muszą być wykonywane przez odpowiednio przeszkolony personel zgodnie z obowiązującym kodeksem postępowania.

Jeśli urządzenie jest użytkowane w sposób inny niż określony przez producenta, zabezpieczenie zapewniane przez urządzenie może zostać ograniczone.

OB! Läs detta dokument samt dokumentet, som står listat i avsnittet Övriga resurser, om installation, konfiguration och drift av denna utrustning innan du installerar, konfigurerar eller börjar använda eller utföra underhållsarbete på produkten. Användare måste bekanta sig med instruktioner för installation och kabeldragning, förutom krav enligt gällande koder, lagar och standarder.

Åtgärder som installation, justering, service, användning, montering, demontering och underhållsarbete måste utföras av personal med lämplig utbildning enligt lämpligt bruk.

Om denna utrustning används på ett sätt som inte anges av tillverkaren kan det hända att utrustningens skyddsanordningar försätts ur funktion.

LET OP: Lees dit document en de documenten die genoemd worden in de paragraaf Aanvullende informatie over de installatie, configuratie en bediening van deze apparatuur voordat u dit product installeert, configureert, bedient of onderhoudt. Gebruikers moeten zich vertrouwd maken met de installatie en de bedradinginstructies, naast de vereisten van alle toepasselijke regels, wetten en normen.

Activiteiten zoals het installeren, afstellen, in gebruik stellen, gebruiken, monteren, demonteren en het uitvoeren van onderhoud mogen uitsluitend worden uitgevoerd door hiervoor opgeleid personeel en in overeenstemming met de geldende praktijkregels.

Indien de apparatuur wordt gebruikt op een wijze die niet is gespecificeerd door de fabrikant, dan bestaat het gevaar dat de beveiliging van de apparatuur niet goed werkt.

**ATTENTION:** Be Aware of Safety Requirements

Personnel responsible for the application of safety-related programmable electronic systems (PES) shall be aware of the safety requirements in the application of the system and shall be trained in using the system.

**WARNING:** Special Conditions for Safe Use:

- This equipment is not resistant to sunlight or other sources of UV radiation.
- This equipment shall be used within its specified ratings defined by Rockwell Automation.
- Secure any external connections that mate to this equipment by using screws, sliding latches, threaded connectors, or other means provided with this product.
- The instructions in the user manual shall be observed.
- Do not dismantle, repair, or modify the module. This can lead to loss of its safety function.
- Use only appropriate components or devices complying with relevant safety standards corresponding to the required level of safety categories (safety integrity level). Conformity to requirements of safety category (safety integrity level) is determined as an entire system. We recommend that you consult a certification body regarding an assessment of conformity to the required safety level.
- You are responsible for compliance with applicable standards for the entire system.
- Copper conductors with a minimum temperature rating of 75 °C need to be used for field connection.

Prevent Electrostatic Discharge

ATTENTION: This equipment is sensitive to electrostatic discharge, which can cause internal damage and affect normal operation. Follow these guidelines when you handle this equipment:

- Touch a grounded object to discharge potential static.
- Wear an approved grounding wriststrap.
- Do not touch connectors or pins on component boards.
- Do not touch circuit components inside the equipment.
- Use a static-safe workstation, if available.
- Store the equipment in appropriate static-safe packaging when not in use.

Environment and Enclosure

This equipment is intended for use in a Pollution Degree 2 industrial environment, in overvoltage Category II applications (as defined in EN/IEC 60664-1), at altitudes up to 2000 m (6562 ft) without derating.

This equipment is not intended for use in residential environments and may not provide adequate protection to radio communication services in such environments.

This equipment is supplied as open-type equipment for indoor use. It must be mounted within an enclosure that is suitably designed for those specific environmental conditions that are present and appropriately designed to prevent personal injury resulting from accessibility to live parts. The enclosure must have suitable flame-retardant properties to prevent or minimize the spread of flame, complying with a flame spread rating of 5VA or be approved for the application if nonmetallic. The interior of the enclosure must be accessible only by the use of a tool. Subsequent sections of this publication may contain additional information regarding specific enclosure type ratings that are required to comply with certain product safety certifications.

In addition to this publication, see the following:

- Industrial Automation Wiring and Grounding Guidelines, publication [1770-4.1](#), for additional installation requirements.
- NEMA Standard 250 and EN/IEC 60529, as applicable, for explanations of the degrees of protection provided by different types of enclosure.

**ATTENTION:** Be Aware of Safety Requirements

Personnel responsible for the application of safety-related programmable electronic systems (PES) shall be aware of the safety requirements in the application of the system and shall be trained in using the system.

Waste Electrical and Electronic Equipment (WEEE)



At the end of its life, this equipment should be collected separately from any unsorted municipal waste.

Before You Begin

Before installing and operating the product, read these installation instructions to learn important installation-related information and the precautions to follow as you install and operate the product. Keep these instructions for future reference.

Concerning suitability for use, we are not responsible for conformity with any standards, codes, or regulations that apply to the combination of the products in the customer's application or use of the product. Take all necessary steps to determine the suitability of the product for the systems, machine, and equipment with which it is used. Know and observe all prohibitions of use applicable to this product.

Never use the products for an application involving serious risk to life or property without verifying that the system as a whole has been designed to address the risks and that the Rockwell Automation product is properly rated and installed for the intended use within the overall equipment or system.

Module Compatibility

The CompactBlock™ Guard I/O™ 2-Channel Incremental Encoder/SSI Module is configurable and supported in all GuardLogix® 5580 and Compact GuardLogix® 5380 safety controllers, version 31 or later.

Safety Controller Compatibility

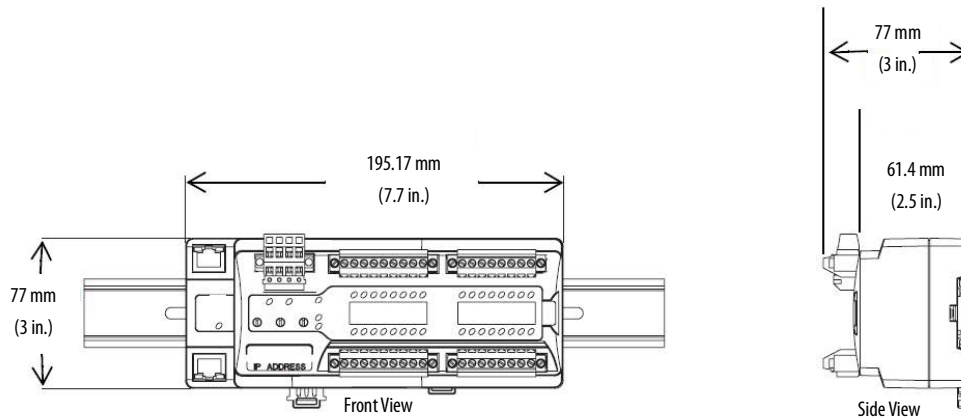
Controllers	Catalog Numbers
GuardLogix 5580 Controllers	1756-L81ES, 1756-L82ES, 1756-L83ES, 1756-L84ES ⁽¹⁾⁽²⁾
Compact GuardLogix 5380 Controllers	5069-L306ERS2, 5069-L306ERMS2, 5069-L310ERS, 5069-L310ERMS2, 5069-L320ERS(K), 5069-L320ERMS2(K), 5069-L330ERS(K), 5069-L330ERMS2(K), 5069-L340ERS, 5069-L340ERMS2, 5069-L350ERS(K), 5069-L350ERMS2(K), 5069-L380ERS, 5069-L380ERMS2, 5069-L3100ERS, 5069-L3100ERMS2

(1) In PLd configuration (no safety partner) or in PLe configuration (with 1756-L8SP safety partner).

(2) Connected through the front port or through a communications module in the 1756 rack.

Module Identification and Dimensions

The module dimensions are shown in the following illustration.



Setting Network Address

Set network (IP address). The module ships with the rotary switches set to 999 and DHCP enabled. To change the network address, you can:

- Adjust the switches on the front of the module.
- Use a Dynamic Host Configuration Protocol (DHCP) server, such as Rockwell Automation BootP/DHCP.
- Retrieve the IP address from nonvolatile memory.

The module reads the switches first to determine if the switches are set to a valid number. Set the network address by adjusting the three switches on the front of the module with the following steps:

- Use a screwdriver to rotate the switches.
- Align the small notch on the switch with the number setting you wish to use, with valid settings ranging from 001...254.

When the switches are set to a valid number, the module's IP address is 192.168.1.xxx (where xxx represents the number set on the switches). The module's subnet mask is 255.255.255.0 and the gateway address is set to 0.0.0.0.

When the module is reading the network address set on the switches, the module does not have a host name that is assigned to it or use any domain name system.

If the switches are set to an invalid number (such as 000 or a value greater than 254), the module checks to see if DHCP is enabled. If DHCP is enabled, the module obtains an address from a DHCP server. The DHCP server also assigns other Transport Control Protocol (TCP) parameters. If DHCP is not enabled, the module uses the IP address (along with other TCP configurable parameters) stored in nonvolatile memory.

Mount the Module



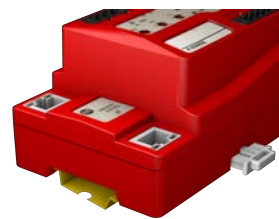
ATTENTION: This product is grounded through the DIN rail to chassis ground. Use zinc-plated yellow-chromate steel DIN rail to confirm proper grounding. The use of other DIN rail materials (for example, aluminum and plastic) that can corrode, oxidize, or are poor conductors, can result in improper or intermittent grounding. Secure DIN rail to the mounting surface approximately every 200 mm (7.87 in.) and use end anchors appropriately

Follow these guidelines when mounting the module:

- Use horizontal or vertical mounting. Secure the 35 mm (1.4 in.) wide DIN rail properly with fasteners every 200 mm (7.87 in.).
- Leave at least 15 mm (0.6 in.) to the wiring duct for adequate ventilation and room for wiring.
- Place all other heat sources an appropriate distance from the module to maintain the specified ambient temperature around the module.

To mount the module, use the following steps.

1. To lock them in the open position, pry open the two gray latches.
2. Hook the module over the top of the DIN rail.
3. Rotate the module downward until it makes full contact with the DIN rail.
4. To secure the module to the rail, snap the latches back into place.
5. Verify that the module is securely attached to the DIN rail.



Hook and rotate module on DIN rail.



Snap latches into place.



ATTENTION: Electrical Safety Considerations

To comply with the CE Low Voltage Directive (LVD), all connections to this equipment must be powered from a source compliant with the following:

- Safety extra low voltage (SELV) supply.
 - Protected extra low voltage (PELV) supply.
-

Wiring The Module

Follow these guidelines when wiring the module:

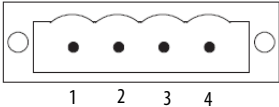
- Do not route communication, input, or output wiring with conduit containing high voltage, referring to Industrial Automation Wiring and Grounding Guidelines, publication [1770-4.1](#).
- Wire correctly after confirming the signal names of all terminals.
- Stranded wire should be processed with insulation-covered ferrule (DIN 46228-4 standard compatible-type) at its ends before using for connection.
- Tighten screws for the I/O connectors correctly at 0.4...0.5 N•m (3.5...4.4 lb•in).

Power Connectors

The module has the same power connectors that are used on the existing 1791ES CompactBlock Guard I/O modules. For CE LVD compliance, the external power supply that provides power to the modules must be safety extra low voltage (SELV) rated.

The connectors match with the following pin descriptions.

Power Connector Pin Descriptions

Pin Number	Signal	Graphic
1	+24V DC Power	
2	+24V DC Power	
3	Ground	
4	Ground	

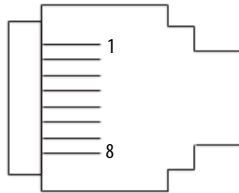
Ethernet Connectors

The module has two embedded RJ45 (8P8C) ports for connection to an Ethernet network. Two 10/100 Base-T embedded Ethernet ports (with embedded green and yellow status indicators) are included for connection to an Ethernet network through any standard RJ45 Ethernet cable. The product supports two 10/100 Base-T embedded Ethernet ports. The status indicators serve as indicators for transmit and receives status.

Ethernet Connector Pins Out

RJ45 10/100

8 - NC
 7 - NC
 6 - RD-
 5 - NC
 4 - NC
 3 - RD+
 2 - TD
 1 - TD+



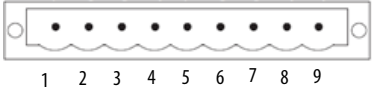

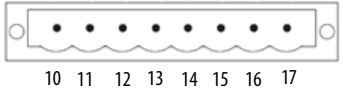

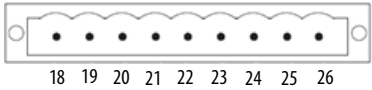

For more information about how to configure an EtherNet/IP™ network, see the EtherNet/IP Network Devices User manual, publication [ENET-UM006](#).

Feedback Connectors

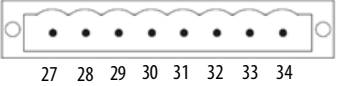
The module has up to four terminal block connectors, a total of 34 pins, which support direct connection to supported feedback devices.

The length limit for connected cabling is provided in the 1791ES CompactBlock Guard I/O 2-Channel Incremental Encoder Synchronous Serial Interface Module User Manual, publication [1791ES-UM002](#).

Feedback Connectors

Pin Number	Signal			Graphic
Encoder 0 Channel				
	Labeling	SSI	Incremental	
1	0X+	Data +	A	
2	0X-	Data -	A (NOT)	
3	0Y+	Clock +	B	
4	0Y-	Clock -	B (NOT)	
5	0M+	+ Power Supply Monitor for Encoder		
6	No Connection			
7	No Connection			
8	0M- (Ground)	- Power Supply Monitor for Encoder		
9	Chassis Ground 			
	Labeling	Sin/Cos		
10	0C+	Cos +		
11	0C-	Cos -		
12	0S+	Sin +		
13	0S-	Sin -		
14	No Connection			
15	No Connection			
16	Ground			
17	Earth Ground 			
Encoder 1 Channel				
	Labeling	SSI	Incremental	
18	1X+	Data +	Channel A+	
19	1X-	Data -	Channel A-	
20	1Y+	Clock +	Channel B+	
21	1Y-	Clock -	Channel B-	
22	1M+	+ Power Supply Monitor for Encoder		
23	No Connection			
24	No Connection			
25	1M- (Ground)	- Power Supply Monitor for Encoder		
26	Chassis Ground 			

Feedback Connectors

Pin Number	Signal	Sin/Cos	Graphic
27	Not Implemented	Not Implemented	 <p>27 28 29 30 31 32 33 34</p>
28			
29			
30			
31			
32			
33			
34			

Status Indicators

Status Indicator Behavior

Indicator	Status	Description
Module Status	Off	No power applied or severe power overvoltage.
	Green	The module is operating normally.
	Red	The module detected a major unrecoverable fault (MNRF).
	Flashing Red/Green	The module is performing POST (power on self test), which completes within 30 s.
	Flashing Green	The module is unconfigured. Module needs commissioning due to missing, incomplete, or incorrect configuration
		The module is idle.
	Flashing Red	The module has detected a major recoverable fault.
User-initiated firmware update is in progress.		
Network Status	Off	The device is not initialized, or the module does not have an IP address.
	Green	The device is online, has an IP address, and CIP™ connections are established.
	Red	The module has detected that its IP address is already in use.
	Flashing Red/Green	The module is performing a power on self test (POST).
		The module has received the proposed UNID and is waiting for the TUNID.
	Flashing Green	The device has an IP address, but no CIP connections are established.
	Flashing Red	One or more connections have timed out.
User-initiated firmware update is in progress.		
Network link status (Link1 and Link2)	Off	No link established.
	Green	Link established on indicated port at 100 Mbps.
	Flashing Green	Link activity present on indicated port at 100 Mbps.
	Yellow	Link established on indicated port at 10 Mbps.
	Flashing Yellow	Link activity present on indicated port at 10 Mbps.
Power Status	Off	No power is applied or severe power overvoltage.
	Green	Power is applied.
Feedback (Channel 0, Channel 1) Status	Off	The input is off, or the channel is configured for not used.
	Yellow	The input is on.
	Red	A fault in the external wiring or internal input circuit detected.
	Flashing Red	A fault in the partner input circuit of a dual-feedback configuration detected.

Specifications

Specifications 1791ES-ID2SSIR

Attribute	1791ES-ID2SSIR
Temperature, operating <ul style="list-style-type: none"> 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 < Ta < +60 °C (-4 < Ta < +140 °F)
Current Ratings	300 mA
Temperature, surrounding air, max	60 °C (140 °F)
Enclosure Type Rating	Meets IP20
Operating Voltage Range	19.2...28.8V DC (24V DC, -20...+20%)
Wire size	Power and I/O single wire connection: 0.34...1.5 mm ² (22...16 AWG) solid or stranded copper wire that is rated at 75°C (167° F) or greater, 1.2 mm (3/64 in.) insulation max.
Isolation Voltage	50V (continuous), Reinforced Insulation Type tested @ 707V DC for 60 s, Signal to Communications, Power to Communications
Product Weight	600 g (1.32 lbs)
Dimensions	80 x 195.17 x 77 mm (3.2 x 7.7 x 3 in.) with terminal block
	77 x 195.17 x 61.4 mm (3 x 7.7 x 2.5 in.) without terminal block

For further specifications see CompactBlock Guard I/O 2-Channel Incremental Encoder Synchronous Serial Interface Module User manual, publication [1791ES-UM002](#).

Additional Resources

These documents contain additional information concerning related products from Rockwell Automation.

Resource	Description
1791ES CompactBlock Guard I/O 2-Channel Incremental Encoder Synchronous Serial Interface Module User Manual, publication 1791ES-UM002	Describes the CompactBlock Guard I/O 2-Channel Incremental Encoder Synchronous Serial Interface Module User Manual in a dual feedback version.
CompactLogix 5380 and Compact GuardLogix 5380 Controllers User Manual, publication 5069-UM001	Describes how to design a system, operate a CompactLogix™ or Compact GuardLogix based controllers system, and develop applications.
ControlLogix 5580 and GuardLogix 5580 Controllers User Manual, publication 1756-UM543	Provides information about designing a system, operating a ControlLogix® or GuardLogix based controllers system, and developing applications
EtherNet/IP Network Devices User Manual, publication ENET-UM006	Describes how to use EtherNet/IP™ communication modules in Logix 5000™ control systems.
Ethernet Design Considerations Reference Manual, publication ENET-RM002	Describes components, features, and performance considerations for Ethernet networks based on the EtherNet/IP industrial communication protocol.
GuardLogix 5580 and Compact GuardLogix 5380 Controller Systems Safety Reference Manual, publication 1756-RM012	Describes the GuardLogix 5580 and Compact GuardLogix 5380 controller systems, which are type-approved and certified for use in safety applications.
Industrial Automation Wiring and Grounding Guidelines, publication 1770-4.1	Provides general guidelines for installing a Rockwell Automation industrial system.
Product Certifications website, http://www.rockwellautomation.com/global/certification/overview.page	Provides declarations of conformity, certificates, and other certification details.
Safety Automation Builder and SISTEMA Library	Download Safety Automation Builder® software to help simplify machine safety design and validation, and reduce time and costs. Integration with our risk assessment software provides you with consistent, reliable, and documented management of the Functional Safety Lifecycle. The SISTEMA tool, also available for download from the Safety Automation Builder page, automates calculation of the attained Performance Level from the safety-related parts of a machine's control system to (EN) ISO 13849-1.

You can view or download publications at <http://www.rockwellautomation.com/global/literature-library/overview.page>. To order paper copies of technical documentation, contact your local Allen-Bradley distributor or Rockwell Automation sales representative.

Rockwell Automation Support

Use the following resources to access support information.

Technical Support Center	Knowledgebase Articles, How-to Videos, FAQs, Chat, User Forums, and Product Notification Updates.	https://rockwellautomation.custhelp.com/
Local Technical Support Phone Numbers	Locate the phone number for your country.	http://www.rockwellautomation.com/global/support/get-support-now.page
Direct Dial Codes	Find the Direct Dial Code for your product. Use the code to route your call directly to a technical support engineer.	http://www.rockwellautomation.com/global/support/direct-dial.page
Literature Library	Installation Instructions, Manuals, Brochures, and Technical Data.	http://www.rockwellautomation.com/global/literature-library/overview.page
Product Compatibility and Download Center (PCDC)	Get help determining how products interact, check features and capabilities, and find associated firmware.	http://www.rockwellautomation.com/global/support/pcdc.page

Documentation Feedback

Your comments will help us serve your documentation needs better. If you have any suggestions on how to improve this document, complete the How Are We Doing? form at http://literature.rockwellautomation.com/idc/groups/literature/documents/du/ra-du002_-en-e.pdf.

Rockwell Automation maintains current product environmental information on its website at <http://www.rockwellautomation.com/rockwellautomation/about-us/sustainability-ethics/product-environmental-compliance.page>.

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