

DATA SHEET

S800 I/O Communication interfaces

Compact Product Suite

Outline of all modules

S800 I/O is a comprehensive, distributed and modular process I/O system that communicates with parent controllers and PLCs over industry-standard field buses.



Thanks to its broad connectivity it fits a wide range of process controllers and PLCs from ABB and others. By permitting installation in the field, close to sensors and actuators, S800 I/O reduces the installation cost by reducing the cost of cabling. And thanks to features such as “hot swap” of modules, on-line reconfiguration and redundancy options, it contributes to keeping production – and thereby profits – up.

For updated information regarding S800 hardware please visit our Hardware Selector. In the selector you can compare different communication modules, S800 IO modules, module termination units, AC 800M controllers, power supplies, voters, panels and also print your own pdf files.

www.compacthardwareselector.com

Feature	CI801	CI840A	CI845/TC810	TB820V2	TB825	TB826	TB840A
Function	PROFIBUS-DPV1 fieldbus communication interface. Supervisory functions of I/O ModuleBus Isolated power supply to I/O modules OSP handling and configuration Input power fused Hot Configuration In Run HART pass-through.	Communication fieldbus interface. Supervisory functions of I/O ModuleBus Isolated power supply to I/O modules OSP handling and configuration Input power fused Power supply supervision Hot Configuration In Run HART pass-through.	Ethernet fieldbus communication interface. Supervisory functions of I/O ModuleBus. Isolated power supply to I/O modules. OSP handling and configuration. Single/redundant 24V power supply with built-in voting and power supply supervision. Hot Configuration In Run. HART pass-through and Sequence of Events. Use with TU860.	2 fiber optic ports to optical ModuleBus ModuleBus (electrical) to the I/O Modules Supervisory functions of I/O ModuleBus and power supply Isolated power supply to I/O modules Input power fused.	ModuleBus optical media converter from plastic or HCS fibre with versatile link connector to glass fibre with ST connector. Allows distribution of the optical ModuleBus up to 1000 m per cluster in star configurations.	ModuleBus optical media converter from plastic or HCS fibre with versatile link connector to glass fibre with SC connector. Allows distribution of the optical ModuleBus up to 5000 m per cluster in star configurations.	2 fiber optic ports to optical ModuleBus ModuleBus (electrical) to the I/O Modules Supervisory functions of I/O ModuleBus and power supply Isolated power supply to I/O modules Input power fused.
Redundant	No	Yes	Yes	No	No	No	Yes
Switch over time at failure in a redundant CI840 configuration ⁽¹⁾		Typical <100 ms Maximum 150 ms					
Power Input	24 V d.c. (19.2 - 30)	24 V d.c. (19.2 - 30)	24 V d.c. (19.2 - 30)	24 V d.c. (19.2 - 30)	24 V d.c. (19.2 - 30)	24 V d.c. (19.2 - 30)	24 V d.c. (19.2 - 30)
Power Input Fuse	2 AF	2 AF		2 AF	2 A	2 A	2 AF
Power Consumption at 24 V d.c.	140 mA	190 mA	150mA	100 mA	96 mA	96 mA	120 mA

⁽¹⁾ PROFIBUS timeout not included

Feature	CI801	CI840A	CI845/TC810	TB820V2	TB825	TB826	TB840A
Power Supply Monitoring Inputs	Use 24V I/O inputs	Max. input voltage: 30 V Min. input voltage for high level: 15 V Max. input voltage for low level: 8 V	Power input A&B are supervised	Max. input voltage: 30 V Min. input voltage for high level: 15 V Max. input voltage for low level: 8 V			Max. input voltage: 30 V Min. input voltage for high level: 15 V Max. input voltage for low level: 8 V
Power Dissipation	5.4 W	7.7 W		6 W	2.3 W	2.3 W	6 W
Maximum Ambient Temperature	55°C (131°F) horizontal mounted 40°C (104°F) vertical mounted	55°C (131°F) horizontal mounted 40°C (104°F) vertical mounted	-40°C (-40°F) to +70°C (158°F)		55°C (131°F) horizontal mounted 40°C (104°F) vertical mounted	55°C (131°F) horizontal mounted 40°C (104°F) vertical mounted	55°C (131°F) horizontal mounted 40°C (104°F) vertical mounted
Service Port (RJ 45 connector on TU847)	Use the PROFIBUS-DPV1 port together with FS801K01	Opto-isolated (RS-232); 19.2 Kbaud/s maximum					
PROFIBUS-DPV1 (D-sub 9-pole female socket)	Opto-isolated (RS-485); 12 Mbit/s maximum, also used as Service Port	Opto-isolated (RS-485); 12 Mbit/s maximum					
Electrical ModuleBus	Maximum of 12 I/O modules	Maximum of 12 I/O modules	12 single or 12 redundant I/O modules	Maximum of 12 I/O modules			Maximum of 12 I/O modules
Optical ModuleBus				Maximum of 7 I/O clusters Max. 10 Mbit/s, Wavelength 650 nm	Local optical ModuleBus 1 and 2 with versatile link contacts, plastic or HCS. Field optical ModuleBus with ST bayonet contacts. 62.5/125 µm wave length 820 nm, max attenuation 3.5 dB	Local optical ModuleBus 1 and 2 with versatile link contacts, plastic or HCS. Field optical ModuleBus with SC contacts. 9/125 µm wave length 1310 nm, max attenuation 20 dB	Maximum of 7 I/O clusters Max. 10 Mbit/s, Wavelength 650 nm
Max optical cable length				Plastic Optical Fiber (POF): Max 15 m. Hard Clad Silica (HCS): Max 200 m.	Local cable: Plastic Optical Fiber (POF): Max 15 m. Hard Clad Silica (HCS): Max 200 m. Field cable: Glass Optical fiber, multimode, 62.5/125 µm: Max 1 000 m. Glass Optical fiber, multimode, 50/125 µm: Max 100 m.	Local cable: Plastic Optical Fiber (POF): Max 15 m. Hard Clad Silica (HCS): Max 200 m. Field cable: Glass Optical fiber, single mode, 9/125 µm: Max 5 000 m.	Plastic Optical Fiber (POF): Max 15 m. Hard Clad Silica (HCS): Max 200m.
Power Output - ModuleBus	24 V max. = 1.5 A fused ⁽²⁾ 5 V max. = 1.5 A current limited	24 V max. = 1.5 A fused 5 V max. = 1.5 A current limited	24 V max. = 2x 1.5 A fused 5 V max. = 2x 1.5 A current limited	24 V max. = 1.4 A 5 V max. = 1.5 A			24 V max. = 1.4 A 5 V max. = 1.5 A
Execution time per Modulebus scan	1.18 ms	1.18 ms					
Module termination units		TU846 with redundant I/O TU847 with non-redundant I/O	TU860				TU807 with singular TB840A TU840 + TU848 with redundant I/O. TU841 + TU849 with non-redundant I/O
MTU Keying code		AA	A				AB
Dielectric test voltage	500 V a.c.	500 V a.c.	500 V a.c.	500 V a.c.	500 V a.c.	500 V a.c.	500 V a.c.
Rated insulation voltage	50 V	50 V	50 V	50 V	50 V	50 V	50 V

⁽²⁾ Fuse type: Subminiature fuse 3.15 A

- LT-5 Fast-Acting 622 series according to Littelfuse
- TR5-F Fuse-link No. 370 according to Wickmann
- MSF 250 according to Schurter

Feature	CI801	CI840A	CI845/TC810	TB820V2	TB825	TB826	TB840A
Width	85.8 mm (3.38")	54 mm (2.13")	33 mm (1.18")	58 mm (2.39")	85.6 mm (3.37")	85.6 mm (3.37")	54 mm (2.13")
Depth	58.5 mm (2.30")	96 mm (3.78")	121.7 mm (4.79")	122 mm (4.8")	58.5 mm (2.30")	58.5 mm (2.30")	96 mm (3.78")
Height	136 mm (5.35") including latch	119 mm (4.69")	135 mm (5.31")	170 mm (6.7") including latch	136 mm (5.35") including latch	136 mm (5.35") including latch	119 mm (4.69")
Weight	0.3 kg (0.66 lb.)	0.2 kg (0.44 lb.)	0.225 kg (0.49 lbs.)	0.3 kg (0.66 lbs.)	0.21 kg (0.46 lb.)	0.21 kg (0.46 lb.)	0.2 kg (0.44 lbs.)
Climatic operating conditions	0 to +55 °C (Storage -25 to +70 °C), RH=5 to 95 % no condensation, IEC/EN 61131-2 ⁽³⁾						
Certificates and standards	CE mark: Yes Electrical safety ⁽⁴⁾ : IEC 61131-2, UL 508 Hazardous Location ⁽⁴⁾ : C1 Div 2 cULus, C1 Zone 2 cULus, ATEX Zone 2 ⁽⁴⁾ Marine certification: ABS, BV, DNV-GL, LR, RS, CCS ⁽⁴⁾ Corrosive atmosphere ISA-S71.04: G3 Pollution degree: Degree 2, IEC 60664-1 Mechanical operating conditions: IEC/EN 61131-2 EMC: EN 61000-6-4 and EN 61000-6-2 Overvoltage categories: IEC/EN 60664-1, EN 50178 Equipment class: Class I according to IEC 61140; (earth protected)						

⁽³⁾ 0 +40 °C compact MTUs on vertical DIN-rail. Approvals are issued for +5 to +55 °C.

⁽⁴⁾ For detailed information on each module, please visit: www.compacthardwareselector.com

⁽¹⁾ Pending for CI845/TC810

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