

Digital modules in S800L mechanics



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.

Feature	DI801	DI802	DI803	DO801	DO802
Number of channels	16 (1 x 16)	8	8	16 (1 x 16)	8
Type of signal	Current sinking	Current sinking, Individually isolated channels	Current sinking, Individually isolated channels	Transistor current sourcing, short-circuit protected, voltage and temperature limited	Relay (NO)
Rated voltage	24 V d.c.	120 V a.c. / 110 V d.c.	230 V a.c. / 220 V d.c.	24 V d.c.	24...110 V d.c. / 250 V a.c.
Load current, maximum				0.5 A	2 A
Load current, minimum					5 mA
Input data	See Table 1	See Table 1	See Table 1		
Output data				See Table 2	See Table 2
Front LED's	S(tatus), Channel 1-16 Status	S(tatus), Channel 1-8 Status	S(tatus), Channel 1-8 Status	S(tatus), Channel 1-16 Status	S(tatus), Channel 1-8 Status
Supervision	Process voltage on channel 16	Process voltage on channel 8	Process voltage on channel 8		Relay supply voltage
Output Set as Predetermined (OSP) timer				256, 512, 1024 ms	256, 512, 1024 ms
Status indication of supervision	Module Error, Module Warning, Channel Error	Module Error, Module Warning, Channel Error	Module Error, Module Warning, Channel Error	Module Error, Module Warning, Channel Error	Module Error, Module Warning, Channel Error
PROFIBUS parameter bytes (User/Input/Output)	7/4/0	6/2/0	6/2/0	10/2/2	7/1/1

Feature	DI801	DI802	DI803	DO801	DO802
Execution time per scan using CI801 or CI840	0.43 ms	0.43 ms	0.43 ms	0.43 ms	0.43 ms
Number of scan cycles per value update	1	1	1	1	1
Maximum field cable length	600 meters (656 yd.)	200 meters (219 yd.) 100pF/m. for a.c. 600 meters (656 yd.) for d.c.	200 meters (219 yd.) 100pF/m. for a.c. 600 meters (656 yd.) for d.c.	600 meters (656 yd.)	600 meters (656 yd.)
Current consumption +5 V	70 mA	50 mA	50 mA	80 mA	70 mA
Current consumption +24 V					80 mA
Power dissipation (1)	2.2 W	2.8 W	2.8 W	2.1 W	2.2 W
Maximum ambient temperature (2)	55/40°C, 131/104°F	55/40°C, 131/104°F	55/40°C, 131/104°F	55/40°C, 131/104°F	55/40°C, 131/104°F
Dielectric test voltage	500 V a.c.	2000 V a.c.	2000 V a.c.	500 V a.c.	2000 V a.c.
Rated insulation voltage (3)	50 V	250 V	250 V	50 V	250 V
Isolation	Groupwise isolated from ground (RIV=50 V)	Individually isolated from ground (RIV=250 V)	Individually isolated from ground (RIV=250 V)	Groupwise isolated from ground (RIV=50 V)	Individually isolated from ground (RIV=250 V)
Equipment class	Class I according to IEC 61140; (earth protected)	Class I according to IEC 61140; (earth protected)	Class I according to IEC 61140; (earth protected)	Class I according to IEC 61140; (earth protected)	Class I according to IEC 61140; (earth protected)
Protection rating	IP20 according to IEC 60529	IP20 according to IEC 60529	IP20 according to IEC 60529	IP20 according to IEC 60529	IP20 according to IEC 60529
Width	86.1 mm (3.4")	86.1 mm (3.4")	86.1 mm (3.4")	86.1 mm (3.4")	86.1 mm (3.4")
Depth	58.5 mm (2.3")	58.5 mm (2.3")	58.5 mm (2.3")	58.5 mm (2.3")	58.5 mm (2.3")
Height	110 mm (4.33")	110 mm (4.33")	110 mm (4.33")	110 mm (4.33")	110 mm (4.33")
Weight	0.24 kg (0.53 lbs.)	0.24 kg (0.53 lbs.)	0.24 kg (0.53 lbs.)	0.24 kg (0.53 lbs.)	0.24 kg (0.53 lbs.)
Corrosive atmosphere ISA-S71.04	G2	G2	G2	G2	G2
CE mark	Yes	Yes	Yes	Yes	Yes
El. safety, Haz loc, C1 Zone 2	cULus	cULus	cULus	cULus	cULus
El. safety, Haz loc, C1 Div 2	FM, CSA	FM, CSA	FM, CSA	FM, CSA	FM, CSA
ATEX 100A Zone 2 Category 3 (1) G	No	No	No	No	No
GOST certificates	CoC, GGTN	CoC, GGTN	CoC, GGTN	CoC, GGTN	CoC, GGTN
Electrical safety	EN 3810, EN 50178, IEC 601131-2, UL 508, CSA 22.2 No.142-M1987				
Hazardous Classified Locations	CSA 22.2 No.213-M1987, FM 3600, FM 3611, UL 1604				
Climatic operating conditions	0 to +55 °C (Storage -25 to +70 °C), RH=5 to 95 % no condensation, IEC/EN 61131-2 (4)				
Pollution degree	Degree 2, IEC 60664-1				
Mechanical operating conditions	IEC/EN 61131-2				
EMC	EN 55011, CISPR 11				
Immunity	IEC/EN 61000-4-2 to -8				
Overvoltage Categories	IEC/EN 60664-1, EN 50178				

(1) Power dissipation is calculated with 70 percent of the channels activated at nominal voltage.

(2) 40°C (104°F) applies to compact MTUs with I/O-modules or S800L-modules mounted on vertical DIN rail.

(3) RIV means the maximum working voltage

(4) 0 to +40 °C compact MTUs on vertical DIN-rail. Approvals are issued for +5 to +55 °C.

