

# I/O Modules - S800 I/O

## System 800xA hardware selector

S800 I/O is a comprehensive, distributed and modular process I/O system that communicates with parent controllers over industry-standard fieldbus technology and therefore can be used with a wide range of process controllers from ABB and other vendors.

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

[www.800xahardwareselector.com](http://www.800xahardwareselector.com)



Specific feature <sup>1</sup>	AI801	AI810	AI815	AI820
<b>General info</b>				
Type	Analog Input			
Signal specification	0...20 mA, 4...20 mA	0..20mA, 4..20mA, 0..10V, 2..10V	0..20 mA, 4..20 mA, 0.5 V, 1..5 V	-20..+20 mA, 0(4)..20 mA, -10..+10 V, 0(2)..10 V
Article number	3BSE020512R1	3BSE008516R1	3BSE052604R1	3BSE008544R1
Number of channels	8			4
Signal type	Unipolar single ended			Bipolar differential
HART	No		Yes	No
SOE	No			
Redundancy	No			
High integrity	No			
Intrinsic safety	No			
Mechanics	S800L	S800		
<b>Dimensions</b>				
Width	86.1 mm (3.4")	45 mm (1.77")		
Depth	58.5 mm (2.3")	102 mm (4.01"), 111 mm (4.37") including connector		
Height	110 mm (4.33")	119 mm (4.7")		
Weight	0.24 kg (0.53 lbs.)	0.2 kg (0.44 lbs.)	0.23 kg (0.51 lbs.)	0.2 kg (0.44 lbs.)
<b>Environment and certification</b>				
RoHS compliance	DIRECTIVE/2011/65/EU (EN 50581:2012)			
WEEE compliance	DIRECTIVE/2012/19/EU			

<sup>1</sup> For detailed information on each module, please visit: [800xahardwareselector.com](http://800xahardwareselector.com)



Specific feature <sup>1</sup>	AI825	AI830A	AI835A	AI843
<b>General info</b>				
Type	Analog Input			
Signal specification	-20..+20 mA, 0(4)..20 mA, -10..+10 V, 0(2)..10V	3-wire RTD: Pt100, Cu10, Ni100, Ni120 and resistive potentiometer	-30..75 mV linear; TC types B, C, D, E, J, K, L, N, R, S, T and U	-30..75 mV linear, TC types B, C, E, J, K, L, N, R, S, T and U
Article number	3BSE036456R1	3BSE040662R1	3BSE051306R1	3BSE028925R1
Number of channels	4	8		
Signal type		See table in S800 Modules and Termination Units, 3BSE020924		See table
HART	No			
SOE	No			
Redundancy	No			Yes
High integrity	No			
Intrinsic safety	No			
Mechanics	S800			
<b>Dimensions</b>				
Width	45 mm (1.77")			
Depth	102 mm (4.01"), 111 mm (4.37") including connector			
Height	119 mm (4.7")			
Weight	0.22 kg (0.49 lbs.)			0.157 kg (0.35 lbs.)
<b>Environment and certification</b>				
RoHS compliance	DIRECTIVE/2011/65/EU (EN 50581:2012)			
WEEE compliance	DIRECTIVE/2012/19/EU			

<sup>1</sup> For detailed information on each module, please visit: [800xahardwareselector.com](http://800xahardwareselector.com)



Specific feature <sup>1</sup>	AI845	AI880A	AI890	AI893
<b>General info</b>				
Type	Analog Input			
Signal specification	0..20mA, 4..20 mA, 0..5 V, 1..5 V	0..20 mA, 4..20 mA	0..20 mA	RTD or TC
Article number	3BSE023675R1	3BSE039293R1	3BSC690071R1	3BSC690141R1
Number of channels	8			
Signal type	Unipolar single ended			Differential
HART	Yes		No	
SOE	No			
Redundancy	Yes		No	
High integrity	No	Yes	No	
Intrinsic safety	No		Yes	
Mechanics	S800			
<b>Dimensions</b>				
Width	45 mm (1.77")			
Depth	102 mm (4.01"), 111 mm (4.37") including connector			
Height	119 mm (4.7")			
Weight	0.23 kg (0.51 lbs.)	0.15 kg (0.33 lbs.)	0.2 kg (0.44 lbs.)	0.16 kg (0.35 lbs.)
<b>Environment and certification</b>				
RoHS compliance	DIRECTIVE/2011/65/EU (EN 50581:2012)			
WEEE compliance	DIRECTIVE/2012/19/EU			

<sup>1</sup> For detailed information on each module, please visit: [800xahardwareselector.com](http://800xahardwareselector.com)



Specific feature <sup>1</sup>	AI895	AO801	AO810V2	AO815
<b>General info</b>				
Type	Analog Input	Analog Output		
Signal specification	4...20 mA	0... 20 mA, 4...20 mA	0..20 mA, 4..20 mA	4..20 mA
Article number	3BSC690086R1	3BSE020514R1	3BSE038415R1	3BSE052605R1
Number of channels	8			
Signal type	Unipolar single ended			
HART	Yes	No		Yes
SOE	No			
Redundancy	No			
High integrity	No			
Intrinsic safety	Yes	No		
Mechanics	S800	S800L	S800	
<b>Dimensions</b>				
Width	45 mm (1.77")	86.1 mm (3.4")	45 mm (1.77")	
Depth	102 mm (4.01"), 111 mm (4.37") including connector	58.5 mm (2.3")	102 mm (4.01"), 111 mm (4.37") including connector	
Height	119 mm (4.7")		119 mm (4.7")	
Weight	0.2 kg (0.44 lbs.)	0.24 kg (0.53 lbs.)	0.18 kg (0.4 lbs.)	0.21 kg (0.46 lbs.)
<b>Environment and certification</b>				
RoHS compliance	DIRECTIVE/2011/65/EU (EN 50581:2012)			
WEEE compliance	DIRECTIVE/2012/19/EU			

<sup>1</sup> For detailed information on each module, please visit: [800xahardwareselector.com](http://800xahardwareselector.com)



Specific feature <sup>1</sup>	AO820	AO845A	AO890	AO895
<b>General info</b>				
Type	Analog Output			
Signal specification	-20 mA...+20 mA, 0...20 mA, 4...20 mA, -10 V...+10 V, 0...10 V, 2...10 V	4.20 mA	0..20 mA, 4.20 mA	4...20 mA
Article number	3BSE008546R1	3BSE045584R1	3BSC690072R1	3BSC690087R1
Number of channels	4	8		
Signal type			Unipolar single ended	
HART	No	Yes	No	Yes
SOE	No			
Redundancy	No	Yes	No	
High integrity	No			
Intrinsic safety	No		Yes	
Mechanics	S800			
<b>Dimensions</b>				
Width	45 mm (1.77")			
Depth	102 mm (4.01"), 111 mm (4.37") including connector			
Height	119 mm (4.7")			
Weight	0.18 kg (0.4 lbs.)	0.21 kg (0.46 lbs.)	0.2 kg (0.44 lbs.)	
<b>Environment and certification</b>				
RoHS compliance	DIRECTIVE/2011/65/EU (EN 50581:2012)			
WEEE compliance	DIRECTIVE/2012/19/EU			

<sup>1</sup> For detailed information on each module, please visit: [800xahardwareselector.com](http://800xahardwareselector.com)



Specific feature <sup>1</sup>	CI845	DI801	DI802	DI803
<b>General info</b>				
Type	Ethernet FCI Module	Digital Input		
Signal specification		24V d.c.	120 V a.c., 110 V d.c.	230 V a.c., 220 V d.c.
Article number	3BSE075853R1	3BSE020508R1	3BSE022360R1	3BSE022362R1
Number of channels		16	8	
Signal type		Current sinking		
HART	Yes	No		
SOE	Yes	No		
Redundancy		No		
High integrity		No		
Intrinsic safety		No		
Mechanics		S800L		
Master or slave	Slave			
Line redundancy	Yes			
Module redundancy	Yes			
Hot swap	Yes			
<b>Dimensions</b>				
Width	30 mm (1.18 in.)	86.1 mm (3.4")		
Depth	121.7 mm (4.79 in.)	58.5 mm (2.3")		
Height	135 mm (5.31 in.)	110 mm (4.33")		
Weight		0.24 kg (0.53 lbs.)		
Weight (including base)	225 g (0.49 lbs)			
<b>Environment and certification</b>				
RoHS compliance	DIRECTIVE/2011/65/EU (EN 50581:2012)	DIRECTIVE/2011/65/EN (EN 50581:2012)	DIRECTIVE/2011/65/EU (EN 50581:2012)	
WEEE compliance	DIRECTIVE/2012/19/EU			

<sup>1</sup> For detailed information on each module, please visit: [800xahardwareselector.com](http://800xahardwareselector.com)



Specific feature <sup>1</sup>	DI810	DI811	DI814	DI818
<b>General info</b>				
Type	Digital Input			
Signal specification	24 V d.c.	48 V d.c.	24 V d.c.	
Article number	3BSE008508R1	3BSE008552R1	3BUR001454R1	3BSE069052R1
Number of channels	16			32
Signal type	Current sinking		Current sourcing	Current sinking
HART	No			
SOE	No			
Redundancy	No			
High integrity	No			
Intrinsic safety	No			
Mechanics	S800			
<b>Dimensions</b>				
Width	45 mm (1.77")			
Depth	102 mm (4.01"), 111 mm (4.37") including connector			
Height	119 mm (4.7")			
Weight	0.15 kg (0.33 lbs.)			
<b>Environment and certification</b>				
RoHS compliance	DIRECTIVE/65/EU (EN 50581:2012)	DIRECTIVE/2011/65/EU (EN 50581:2012)		
WEEE compliance	DIRECTIVE/2012/19/EU			

<sup>1</sup> For detailed information on each module, please visit: [800xahardwareselector.com](http://800xahardwareselector.com)



Specific feature <sup>1</sup>	DI820	DI821	DI825	DI828
<b>General info</b>				
Type	Digital Input			
Signal specification	120 V a.c. / 110 V d.c.	230 V a.c., 220 V d.c.	125 V d.c.	120 V a.c. / d.c.
Article number	3BSE008512R1	3BSE008550R1	3BSE036373R1	3BSE069054R1
Number of channels	8			16
Signal type	Current sinking			
HART	No			
SOE	No		Yes	No
Redundancy	No			
High integrity	No			
Intrinsic safety	No			
Mechanics	S800			
<b>Dimensions</b>				
Width	45 mm (1.77")			
Depth	102 mm (4.01"), 111 mm (4.37") including connector			
Height	119 mm (4.7")			
Weight	0.18 kg (0.4 lbs.)		0.14 kg (0.31 lbs.)	0.15 kg (0.33 lbs.)
<b>Environment and certification</b>				
RoHS compliance	DIRECTIVE/2011/65/EU (EN 50581:2012)			
WEEE compliance	DIRECTIVE/2012/19/EU			

<sup>1</sup> For detailed information on each module, please visit: [800xahardwareselector.com](http://800xahardwareselector.com)





Specific feature <sup>1</sup>	DI830	DI831	DI840	DI880
<b>General info</b>				
Type	Digital Input			
Signal specification	24 V d.c.	48 V d.c.	24 V d.c.	
Article number	3BSE013210R1	3BSE013212R1	3BSE020836R1	3BSE028586R1
Number of channels	16			
Signal type	Current sinking			
HART	No			
SOE	Yes			
Redundancy	No		Yes	
High integrity	No			Yes
Intrinsic safety	No			
Mechanics	S800			
<b>Dimensions</b>				
Width	45 mm (1.77")			
Depth	102 mm (4.01"), 111 mm (4.37") including connector			
Height	119 mm (4.7")			
Weight	0.22 kg (0.48 lbs.)		0.15 kg (0.33 lbs.)	
<b>Environment and certification</b>				
RoHS compliance	DIRECTIVE/2011/65/EU (EN 50581:2012)			
WEEE compliance	DIRECTIVE/2012/19/EU			

<sup>1</sup> For detailed information on each module, please visit: [800xahardwareselector.com](http://800xahardwareselector.com)



Specific feature <sup>1</sup>	DI890	DO801	DO802	DO810
<b>General info</b>				
Type	Digital Input	Digital Output		
Signal specification	NAMUR input level	24 V d.c. (12 - 32 V d.c.), 0.5 A	24...110 V d.c. / 250 V a.c. (max 2 A)	24V d.c. (12 - 32 V d.c.), 0.5 A
Article number	3BSC690073R1	3BSE020510R1	3BSE022364R1	3BSE008510R1
Number of channels	8	16	8	16
Signal type	Proximity sensor (NAMUR) or Voltage free contact	Current sourcing, current limiting	Relay (NO)	Current sourcing, current limiting
HART	No			
SOE	No			
Redundancy	No			
High integrity	No			
Intrinsic safety	Yes	No		
Mechanics	S800	S800L		S800
<b>Dimensions</b>				
Width	45 mm (1.77")	86.1 mm (3.4")		45 mm (1.77")
Depth	102 mm (4.01"), 111 mm (4.37") including connector	58.5 mm (2.3")		102 mm (4.01"), 111 mm (4.37") including connector
Height	119 mm (4.7")	110 mm (4.33")		119 mm (4.7")
Weight	0.2 kg (0.44 lbs.)	0.24 kg (0.53 lbs.)		0.18 kg (0.4 lbs.)
<b>Environment and certification</b>				
RoHS compliance	DIRECTIVE/2011/65/EU (EN 50581:2012)			
WEEE compliance	DIRECTIVE/2012/19/EU			

<sup>1</sup> For detailed information on each module, please visit: [800xahardwareselector.com](http://800xahardwareselector.com)



Specific feature <sup>1</sup>	DO814	DO815	DO818	DO820
<b>General info</b>				
Type	Digital Output			
Signal specification	24 V d.c. (12-32 V d.c.), 0.5 A	24 V d.c. (10-32 V d.c.), 2A	24 V d.c. (12-32 V d.c.), 0.5 A	230 V a.c. / d.c. (5-250 V a.c./d.c.), 3 A
Article number	3BUR001455R1	3BSE013258R1	3BSE069053R1	3BSE008514R1
Number of channels	16	8	32	8
Signal type	Current sinking, current limiting	High side driver, current limiting	Current sourcing, current limiting	Relay (NO)
HART	No			
SOE	No			
Redundancy	No			
High integrity	No			
Intrinsic safety	No			
Mechanics	S800			
<b>Dimensions</b>				
Width	45 mm (1.77")		45 mm (1.77")	45 mm (1.77")
Depth	102 mm (4.01"), 111 mm (4.37") including connector		102 mm (4.01"), 111 mm (4.37") including connector	102 mm (4.01"), 111 mm (4.37") including connector
Height	119 mm (4.7")		119 mm (4.7")	119 mm (4.7")
Weight	0.18 kg (0.4 lbs.)	0.2 kg (0.44 lbs.)	0.18 kg (0.4 lbs.)	0.23 kg (0.5 lbs.)
<b>Environment and certification</b>				
RoHS compliance	DIRECTIVE/2011/65/EN (EN 50581:2012)			
WEEE compliance	DIRECTIVE/2012/19/EU			

<sup>1</sup> For detailed information on each module, please visit: [800xahardwareselector.com](http://800xahardwareselector.com)



Specific feature <sup>1</sup>	DO821	DO828	DO840	DO880
<b>General info</b>				
Type	Digital Output			
Signal specification	230 V a.c./d.c. (5-250 V a.c./d.c.), 3 A	125 V d.c. / 250 V a.c., (5 - 125 V d.c. / 5 - 250 V a.c.), 2 A	24 V d.c. (19.2 - 32 V d.c.), 0.5 A	
Article number	3BSE013250R1	3BSE069055R1	3BSE020838R1	3BSE028602R1
Number of channels	8	16		
Signal type	Relay (NC)	Relay (NO)	Current sourcing, current limiting	
HART	No			
SOE	No			
Redundancy	No		Yes	
High integrity	No			Yes
Intrinsic safety	No			
Mechanics	S800			
<b>Dimensions</b>				
Width	45 mm (1.77")	45 mm (1.77")	45 mm (1.77")	
Depth	102 mm (4.01"), 111 mm (4.37") including connector	102 mm (4.01"), 111 mm (4.37") including connector	102 mm (4.01"), 111 mm (4.37") including connector	
Height	119 mm (4.7")		119 mm (4.7")	
Weight	0.23 kg (0.5 lbs.)	0.18 kg (0.4 lbs.)	0.15 kg (0.33 lbs.)	0.20 kg (0.44 lbs.)
<b>Environment and certification</b>				
RoHS compliance	DIRECTIVE/2011/65/EN (EN 50581:2012)			
WEEE compliance	DIRECTIVE/2012/19/EU			

<sup>1</sup> For detailed information on each module, please visit: [800xahardwareselector.com](http://800xahardwareselector.com)



Specific feature <sup>1</sup>	DO890	DP820	DP840	TU860
<b>General info</b>				
Type	Digital Output	Pulse counter		MTU for Ethernet FCI (S800 I/O)
Signal specification	11 V, 40 mA	24 V d.c. (12 - 32 V d.c.)	24 V d.c. (19.2 - 32 V d.c.)	
Article number	3BSC690074R1	3BSE013228R1	3BSE028926R1	3BSE078710R1
Number of channels	4	2	8	
Signal type	Solenoid driver			
HART	No			
SOE	No			
Redundancy	No		Yes	
High integrity	No			
Intrinsic safety	Yes	No		
Mechanics	S800			
<b>Dimensions</b>				
Width	45 mm (1.77")			135 mm (5.31 in.)
Depth	102 mm (4.01"), 111 mm (4.37") including connector			95.5 mm (3.76 in.)
Height	119 mm (4.7")			210 mm (8.26 in.)
Weight	0.2 kg (0.44 lbs.)	0.15 kg (0.33 lbs.)	0.15 kg (0.33 lbs.)	
Weight (including base)				500 g (1.1 lbs)
<b>Environment and certification</b>				
RoHS compliance	DIRECTIVE/2011/65/EN (EN 50581:2012)	DIRECTIVE/2011/65/EU (EN 50581:2012)		
WEEE compliance	DIRECTIVE/2012/19/EU			

<sup>1</sup> For detailed information on each module, please visit: [800xahardwareselector.com](http://800xahardwareselector.com)

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