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From simple connectors to integrated I/O platforms, monobloc products to modular solutions, Modicon I/O presents an extensive range of interfaces and I/O for any application.

## Modicon I/O

The compact dimensions and pre-wired system characteristic of the Modicon I/O range allow you to optimise installation time, minimise costs and the risk of error, as well as simplify maintenance.



# 6 | Interfaces and I/O



This document is a selection of the top selling products.

For more information:  
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## Distributed I/O

### IP20

Optimum modular I/O system, for simple machines, **Modicon OTB** ..... 6/2

Modular I/O system for complexes machines or installations, **Modicon TM5** ..... 6/3 to 6/8

Modular I/O with device integration capabilities, **Modicon STB** ..... 6/9 to 6/12

### IP67

Modular I/O system for machines or installations in harsh environment, **Modicon TM7** ..... 6/13

## Distributed I/O with embedded control

### IP20

Block I/O, **Modicon Momentum** ..... 6/14 to 6/17

## Pre-wired interfaces

### IP20

Sub-bases, **Modicon ABE7** ..... 6/18 to 6/20

### IP67

Passive splitter boxes, **Modicon ABE9** ..... 6/21

## Accessories and cabling

Connection cables and jumper cables ..... 6/22



Discrete Type of bus	CANopen Machine bus	Ethernet TCP/IP network (2)	Modbus Series network
Number of I/Os	20 I/O		
Number of inputs	12 inputs 24 VDC IEC type 1		
Number of outputs	6 relay outputs and 2 solid state 24 VDC outputs		
Connection method	Removable terminal block		
Number of I/O expansion modules (1)	7 discrete or analogue input/output modules, or connection accessories		
Maximum I/O configuration	With interface module base: 132 with screw terminal I/O expansion; 244 with HE10 connector I/O expansion; up to 48 analogue channels		
Supply voltage	24 VDC		
Counting	5 kHz		
	20 kHz		
Pulse generator, 7 kHz	2 channels, 32 bits (0...4 294 967 295 points) dedicated discrete inputs -up counting/down counting with preset		
	2 channels, 32 bits (0...4 294 967 295 points) up/down counting, up counting, down counting, frequency meter		
	2 PWM function channels (output with pulse width modulation) or PLS function (pulse generator output)		
Dimensions W x D x H (mm)	55 x 70 x 90		
References	OTB1C0DM9LP	OTB1E0DM9LP	OTB1S0DM9LP

(1) For the references of discrete I/O and analogue expansion modules, please see [www.schneider-electric.com](http://www.schneider-electric.com)

(2) Transparent Ready : Class A10

## Accessories

Type of accessory	Commoning modules	Documentation
Usage	For grouping input or output commons, max 8 A	User guides for Modicon hardware and software, and Modicon Configuration Software for Modicon OTB/FTB/FTM. Provided on CD.
Positioning	Inter-module	-
Référence	OTB9ZZ61JP	FTXES01



Type of module	Bus base	CANopen electronic interface module	Power distribution electronic module	Terminal block
Max. number of addressable I/O modules	40 with 240 Digital Input, 240 Digital Output, 20 Input Analog & 20 Output Analog (1)			
Baud rate	10 K...1 Mbps			
Power supply	24 VDC			
Module color	White	White	Grey	Grey
Description	For TM5NCO1 and TM5SPS3 electronic modules	CANopen bus communication with CANopen protocol	For the CANopen bus interface and slice I/O expansion modules	12 spring terminals
References	TM5ACBN1	TM5NCO1	TM5SPS3	TM5ACTB12PS

(1) Only 3 configurations maximum on CANopen fieldbus

### Digital and analogue I/O expansion blocks <sup>(2)</sup>



Type of module	Input		Output			
	Digital	Analog	Digital	Analog		
Number of inputs	12 sink	–	–	–	–	–
Number of outputs	–	–	–	12 source	4 relay	–
Number of inputs	–	4	4	–	–	–
Number of outputs	–	–	–	–	–	4
Nominal input current	24 VDC	–	–	–	–	–
Nominal output current	–	–	–	24 VDC	30 VDC/ 230 VAC	–
Type	–	Thermal probe	Voltage / Current	–	–	Voltage / Current
Associated bus sub-bases <sup>(3)</sup>						
	TM5ACBM11	TM5ACBM11	TM5ACBM11	TM5ACBM11	TM5ACBM12	TM5ACBM11
Associated terminal block <sup>(3)</sup>						
	TM5ACTB12	TM5ACTB12	TM5ACTB12	TM5ACTB12	TM5ACTB32	TM5ACTB12
References	TM5SDI12D	TM5SAI4PH	TM5SAI4L	TM5SDO12T	TM5SDO4R	TM5SAO4L

(2) Wide range of I/O expansion modules ( digital I/O, analog, expert, non-functioning dummy, remote I/O modules...), please consult our catalogue pages on [www.schneider-electric.com](http://www.schneider-electric.com).

(3) To be ordered separately



Type of module	20 I/O Digital Compact block	36 I/O Digital Compact block	42 I/O Digital Compact block	24 I/O Digital/Analog Compact block
Digital input number	12	24	24	12
Digital input type	Sink	Sink	Sink	Sink
Analog input number	–	–	–	4
Analog input type	–	–	–	- 10...+ 10 VDC, 0...20 mA, 4...20 mA
Digital output number	8	12	18	6
Digital output type	Transistor	Relay with NO contact	Transistor	Transistor
Analog output number	–	–	–	2
Analog output type	–	–	–	- 10...+ 10 VDC, 0...20 mA
References	TM5C12D8T	TM5C24D12R	TM5C24D18T	TM5C12D6T6L

Type of module	16 I/O Analog Compact block	16 I/O Analog Compact block	16 I/O Analog Compact block
Analog input number	8	8	8
Analog input type	- 10...+ 10 VDC	0...20 mA, 4...20 mA	4 inputs : - 10...+ 10 VDC, 4 inputs : 0...20 mA, 4...20 mA
Analog output number	8	8	8
Analog output type	- 10...+ 10 VDC	0...20 mA, 4...20 mA	4 inputs : - 10...+ 10 VDC, 4 inputs : 0...20 mA, 4...20 mA
References	TM5CAI8O8VL	TM5CAI8O8CL	TM5CAI8O8CVL







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## IP 20 Distributed I/O, modular system PCI modules









Type of module	PCI Serial link communication modules	Serial link communication modules	Profibus DP communication module
Physical layer	RS232	RS485	RS485
Protocol	Modbus / ASCII	Modbus / ASCII	Profibus DP Slave
Baud Rate	115,2 kbit/s max.	115,2 kbit/s max.	12 Mbit/s max.
Connector	D-Sub 9, male	D-Sub 9, male	SUB-D connector (male 9-way)
References	TM5PCRS2	TM5PCRS4	TM5PCDPS









Type of module	Analog Input	Analog Input	Analog Input
Type	Voltage / Current	Voltage / Current	Pt100 / Pt1000 temperature probe
Range	- 10...+ 10 VDC 0...20 mA 4...20 mA	- 10...+ 10 VDC 0...20 mA 4...20 mA	- 200...+ 850°C
Resolution	12 bits + sign	15 bits + sign	16 bits
Associated bus sub-bases (3)	 TM5ACBM11	 TM5ACBM11	 TM5ACBM11
Associated terminal block (3)	 TM5ACTB12	 TM5ACTB12	 TM5ACTB12
References	2 channels 4 channels	<b>TM5SAI2L</b> <b>TM5SAI4L</b>	<b>TM5SAI2H</b> <b>TM5SAI4H</b>
		<b>TM5SAI2PH</b> <b>TM5SAI4PH</b>	









Type of module	Analog Output	Analog Output	Analog Input
Type	Voltage / Current	Voltage / Current	J, K, S, N thermocouple
Range	- 10...+ 10 VDC 0...20 mA	- 10...+ 10 VDC 0...20 mA	Type J : - 210...+ 1200°C Type K : - 270...+ 1372°C Type S : - 50...+ 1768°C Type N : - 270...+ 1300°C
Resolution	12 bits + sign	15 bits + sign	16 bits
Associated bus sub-bases (3)	 TM5ACBM11	 TM5ACBM11	 TM5ACBM11
Associated terminal block (3)	 TM5ACTB12	 TM5ACTB12	 TM5ACTB12
References	2 channels 4 channels	<b>TM5SAO2L</b> <b>TM5SAO4L</b>	<b>TM5SAI2TH</b> <b>TM5SAI6TH (6 channels)</b>
		<b>TM5SAO2H</b> <b>TM5SAO4H</b>	



Type of module	Digital Inputs	Digital Inputs	Digital Inputs/Outputs
Supply voltage	24 VDC	100/240 VAC	24 VDC
Type of signal (1)	Sink	–	Sink / Source
Associated bus sub-bases (3)	 TM5ACBM11	 TM5ACBM12	 TM5ACBM11
Associated terminal block (3)	 TM5ACTB12	 TM5ACTB32	 TM5ACTB12
References	2 channels 4 channels 6 channels 12 channels	<b>TM5SDI2D</b> <b>TM5SDI4D</b> <b>TM5SDI6D</b> <b>TM5SDI12D</b>	– <b>TM5SDI2A</b> <b>TM5SDI4A</b> <b>TM5SDI6U</b> – <b>TM5SDM12DT</b>

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Type of module	Digital Outputs	Digital Outputs	Output analog
Supply voltage	24 VDC	24 VDC	30 VDC / 230 VAC
Type of signal (1)	Source	Source	Relay
Associated bus sub-bases (3)	 TM5ACBM11	 TM5ACBM11	 TM5ACBM12
Associated terminal block (3)	 TM5ACTB12	 TM5ACTB12	 TM5ACTB32
References	2 channels 4 channels 6 channels 12 channels	– <b>TM5SDO2T</b> <b>TM5SDO4T</b> <b>TM5SDO6T</b> <b>TM5SDO12T</b>	– <b>TM5SDO2R</b> <b>TM5SDO4R</b> <b>TM5SDO8TA (8 channels)</b> – –



# IP 20 Distributed I/O, modular system

## Expert and other modules

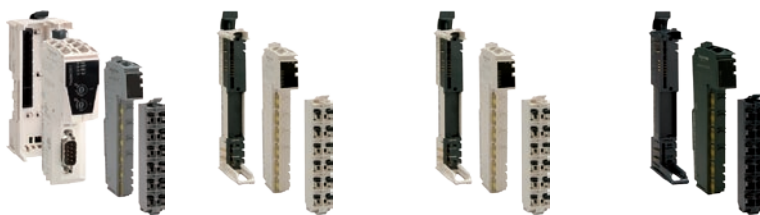


Type of module	Expert module	Expert module	Expert module	Expert module
Number of channels	2	1 or 2	1	1
Max. frequency	50 kHz	100 kHz	250 kHz	1 MHz
Signal	Sink	Sink	Sink	Sink
Integrated functions	Event counting Interval measurement	2 x 24 VDC auxiliary inputs 24 VDC encoder power supply	2 x 24 VDC auxiliary inputs 5 VDC encoder power supply	2 x 24 VDC auxiliary inputs 5 VDC SSI encoder power supply
Associated bus sub-bases (3)	 TM5ACBM11	 TM5ACBM11	 TM5ACBM11	 TM5ACBM11
Associated terminal block (3)	 TM5ACTB12	 TM5ACTB12	 TM5ACTB12	 TM5ACTB12
References	TM5SDI12DF	TM5SE1IC1024 TM5SE2IC1024	TM5SE1IC02505	TM5SE1SC1005



Type of module	Expert module
Number of channels	1
Sensor range	85...5000 Ω
Resolution	24 bits
Measurement type	Full-bridge strain gauge
Associated bus sub-bases (3)	 TM5ACBM11
Associated terminal block (3)	 TM5ACTB12
References	TM5SEAISG





Type of module	CANopen Fieldbus Interface module	Digital Inputs	Digital Outputs	Digital Outputs
Number of channels	–	12	12	4
Power Supply	–	24 VDC	24 VDC	30 VDC / 230 VAC
Type of signal	–	Sink	Source	Relay
Type of wiring	–	1-wire	1-wire	NO/NC contact
Composition of the kit	TM5ACBN1 + TM5ACTB12PS + TM5NCO1 + TM5SPS3	TM5ACBM11 + TM5ACTB12 + TM5SDI12D	TM5ACBM11 + TM5ACTB12 + TM5SDO12T	TM5ACBM12 + TM5ACTB32 + TM5SDO4R
References	<b>TM5NCO1K</b>	<b>TM5SDI12DK</b>	<b>TM5SDO12TK</b>	<b>TM5SDO4RK</b>



Type of module	Analog Input	Analog Output	Analog Input
Number of channels	4	4	4
Type	Voltage / Current	Voltage / Current	Pt100 / Pt1000 temperature probe
Range	- 10...+ 10 VDC 0...20 mA 4...20 mA	- 10...+ 10 VDC 0...20 mA	- 200...+ 850°C
Resolution	12 bits + sign	12 bits + sign	16 bits
Composition of the kit	TM5ACBM11 + TM5ACTB12 + TM5SAI4L	TM5ACBM11 + TM5ACTB12 + TM5SAO4L	TM5ACBM11 + TM5ACTB12 + TM5SAI4PH
References	<b>TM5SAI4LK</b>	<b>TM5SAO4LK</b>	<b>TM5SAI4PHK</b>



Type of module NIM		EtherNet Modbus TCP	Modbus TCP, dual port	EtherNet/IP
<b>Baud rate</b>		10 Mbps	10/100 Mbps	10/100 Mbps
<b>Transparent Ready</b>	Class	B20	B15	N/A
	Embedded Web server	Standard services	Standard services	Standard services
	Ethernet services	SNMP agent, FDR, BootP & DHCP client	SNMP agent, RSTP, BootP & DHCP client	SNMP agent, BootP & DHCP client
<b>Max. number of addressable I/O modules</b>		32 per island	32 per island	32 per island
<b>Dimensions W x D x H (mm)</b>		40 x 70 x 128.3	40 x 70 x 128.3	40 x 70 x 128.3
<b>Reference</b>	Standard	<b>STBNIP2212</b>	<b>STBNIP2311</b>	<b>STBNIC2212</b>



Type of module NIM		Machine bus CANopen	Fieldbus Fipio	INTERBUS	Profibus DP
<b>Max. number of addressable I/O modules</b>		32 per island (1) (2)	32 per island (1)	32 per island (1) (2)	32 per island (1) (2)
<b>Baud rate</b>		10 K...1 Mbps	1 Mbps	0.5 Mbps	9.6 K...12 Mbps
<b>Dimensions W x D x H (mm)</b>		40 x 70 x 128.3			
<b>Reference</b>	Standard	<b>STBNCO2212</b>	<b>STBNFP2212</b>	<b>STBNIB2212</b>	<b>STBNDP2212</b>

(1) On 1 primary segment and 6 expansion segments max.

(2) 12 max on 1 primary segment for basic versions.



Type of module		Other networks		
		Modbus Plus	DeviceNet	
<b>Max. number of addressable I/O modules</b>		32 per island	32 per island	12 per island
<b>Baud rate</b>		1 Mbps	125, 250 or 500 Kbps	125, 250 or 500 Kbps
<b>Dimensions W x D x H (mm)</b>		40 x 70 x 128.3		
<b>Reference</b>	Standard	<b>STBNMP2212</b>	<b>STBNDN2212</b>	–
	Basic	–	–	<b>STBNDN1010</b>

## Connection accessories

Type of accessory		Removable terminals for 24 VDC power supply	DeviceNet
<b>Use</b>		All communication modules	Network link DeviceNet module
<b>Reference</b>	Screw terminals	<b>STBXTS1120</b> (1)	<b>STBXTS1111</b>
	Spring terminals	<b>STBXTS2120</b> (1)	<b>STBXTS2111</b>
<b>Marking label sheets</b>		<b>STBXMP6700</b>	
<b>Screwdriver</b>		<b>STBXTT0220</b>	

(1) Provided with the module kit and can be ordered separately as spare parts (sold by lots of 10). STBXTS●120 are delivered systematically with STBN●●●●●●



Type of module		PDM				Auxiliary Power supply	
Connection by removable terminals		Screw STBXTS1130 (2) (3) Spring STBXTS2130 (2) (3)				Screw STBXTS1120 (2) Spring STBXTS2120 (2)	
Supply voltage		24 VDC		115...230 VAC		24 VDC	
Maximum current	Inputs (4)	4 A at 30°C, 2.5 A at 60°C		5 A at 30°C, 2.5 A at 60°C		–	
	Outputs (4)	8 A at 30°C, 5 A at 60°C		10 A at 30°C, 5 A at 60°C		–	
	Inputs/Outputs (4)	–	4 A at 30°C, 2.5 A at 60°C	–	4 A at 30°C, 2.5 A at 60°C	–	
	Logic internal 5 V	–	–	–	–	1.2 A	
Sensor/actuator bus voltage range		19.2...30 VDC		85...265 VAC		–	
Dimensions W x D x H (mm)		18.4 x 70 x 128.3					
Reference	Module (5)	Standard	STBPDT3100K	–	STBPDT2100K	–	STBCPS2111K
		Basic	–	STBPDT3105K	–	STBPDT2105K	–
	Base		STBXBA2200		STBXBA2200		STBXBA2100

- (1) For power supplies see chapter 5.
- (2) To be ordered separately, sold in lots of 10.
- (3) PDM connector keying pin kit STBXMP7810.
- (4) PDM fuse kit STBXMP5600.
- (5) Kit reference including module, base and terminal.  
Base and terminals can be ordered separately as spare parts.

## Bus extension modules for standard range



Type of module	“EOS” End of segment	“BOS” Beginning of segment	Extension for CANopen connection devices		
Connection by removable terminals	–	Screw STBXTS1120 (1) Spring STBXTS2120 (1)	Screw STBXTS1110 (2) Spring STBXTS2110 (2)		
Use	For placing at end of segment (except for the last)	For placing at head of each extension segment	For placing at end of last segment		
Dimensions W x D x H (mm)	18.4 x 70 x 128.3				
Reference	Module (3)	Standard	STBXBE1100K	STBXBE1300K	STBXBE2100K
	Base		STBXBA2300K	STBXBA2400	STBXBA2000

- (1) To be ordered separately, sold in lots of 10.
- (2) To be ordered separately, sold in lots of 20.
- (3) Kit reference including module, base and terminal. Base and terminals can be ordered separately as spare parts.

## Software and memory card



Type	Modicon STB, OTB, FTM, FTB configuration software (PC connection cable supplied)					Removable memory card
Software User Guide	Single station	3 pack	10 pack	Unlimited Site	System Alliance Integrator	–
Memory size	–					32 KB
Reference	STBSPU1000	STBSPU1003	STBSPU1011	STBSPU1130	STBSPU1010	STBXMP4440
	Hardware User Guide	STBSUS8800				

## Connection accessories

Type of accessory	Island bus expansion cable				
Length	0.3 m	1 m	4.5 m	10 m	14 m
Reference	STBXCA1001	STBXCA1002	STBXCA1003	STBXCA1004	STBXCA1006
Type of accessory	Bus termination module or plug		Programming connection cable L= 2 m		
Reference	STBXMP1100		STBXCA4002		

Connection accessories: See [www.schneider-electric.com](http://www.schneider-electric.com)



Type of module			Discrete inputs						
Connection by removable terminals (1)	Screw (2)		STBXTS1100			STBXTS1180		STBXTS1110	
		Spring (2)	STBXTS2100			STBXTS2180		STBXTS2110	
Number of channels			2	4	6	16	2	2 (isolated)	2
Input voltage			24 VDC				115 VAC		230 VAC
Dimensions W x D x H (mm)			13.9 x 70 x 128.3				18.4 x 70 x 128.3		
Reference	Module (6)	Standard	STBDDI3230K	STBDDI3420K	STBDDI3610K	–	STBDAI5230K	STBDAI5260K	STBDAI7220K
		Basic	–	STBDDI3425K	STBDDI3615K	STBDDI3725KS/KC*	–	–	–
	Base (3)		STBXBA1000			STBXBA3000		STBXBA2000	

\* KS with base and screw terminals,  
KC with base and spring terminals.

\*\* Without base and terminals.  
Base and terminals can be ordered separately as spare parts.



Type of module			Discrete solid state outputs						
Connection by removable terminals (1)	Screw (2)		STBXTS1100			STBXTS1180			
		Spring (2)	STBXTS2100			STBXTS2100			
Number of channels			2	4	6	16			
Output voltage			24 VDC			24 VDC			
Output current			0.5 A	2 A	0.25 A	0.5 A	0.25 A	0.5 A	0.5 A
Dimensions W x D x H (mm)			13.9 x 70 x 128.3						
Reference	Module (6)	Standard	STBDDO3200K	STBDDO3230K	–	STBDDO3410K	–	STBDDO3600K	–
		Basic	–	–	STBDDO3415K	–	STBDDO3605K	–	STBDDO3705KS/KC*
	Base (3)		STBXBA1000			STBXBA3000			

\* KS with base and screw terminals,  
KC with base and spring terminals.

\*\* Without base and terminal.  
Base and terminals can be ordered separately as spare parts.



Type of module			Discrete outputs			
			Triac		Relay	
Connection by removable terminals (1)	Screw (2)		STBXTS1100			
		Spring (2)	STBXTS2100			
Number of channels			2	2 (isolated)	2 NO/NC and common	2NC+NO
Output voltage			115...230 VAC		115 VAC	
Output current			2 A à 30°C, 1 A à 60°C		24 VDC ou 115...230 VAC	
Dimensions W x D x H (mm)			18.4 x 70 x 128.3			28.1 x 70 x 128.3
Reference	Module (6)	Standard	STBDAO8210K	STBDAO5260K	STBDR3210K	STBDRA3290K
		Base (3)	STBXBA2000			STBXBA3000

(1) To be ordered separately, sold in lots of 20.

(2) I/O connector keying pin kit STBXMP7800.

(3) Module keying pin kit STBXMP7700.

(4) If connection on Telefast2 order STBXTS6510 or connection on Telefast Twido order STBXTS5510.

(5) If connection on Telefast2 order STBXTS6610 or connection on Telefast Twido order STBXTS5610.

(6) Kit reference including module, base and terminal except for STBDDI3725 and STBDDO3705. Base and terminals can be ordered separately as spare parts.

Connection accessories: See [www.schneider-electric.com](http://www.schneider-electric.com)



Type of module (1)		Analog inputs (*)									
Connection by removable terminals		Screw STBXTS1100 (2) / Spring STBXTS2100 (2)									
Number of channels		2				4		8		2	
Input signal		- 10...+10 V	0...+10 V	0...20 mA	4...20 mA	4...20 / 0...20 mA	Selectable	Selectable	Multirange (3)		
Resolution		11 bits + sign	10 bits	12 bits	10 bits	15 bits + sign					
Dimensions W x D x H (mm)		13.9 x 70 x 128.3				18.4 x 70 x 128.3				13.9 x 70 x 128.3	
Reference	Module (8)	Standard	-	-	STBACI1230K	-	STBACI0320K	STBAVI0300K	STBACH1400K (5)	STBART0200K	
		Basic	-	-	-	-	STBACI8320K (4)	-	STBAVI1400K (6)	-	
	Base	STBXBA1000				STBXBA2000				STBXBA1000	

(\*) For other references, please see: [www.schneider-electric.com](http://www.schneider-electric.com)



Type of module (1)		Analog outputs								
Connection by removable terminals		Screw STBXTS1100 (2) / Spring STBXTS2100 (2)								
Number of channels		1		2						
Output signal		4...20 mA	0...+10, -10...+10 V	0...+10 V	-10 V...+10 V	0...20 mA	4...20 mA	4...20 mA	Selectable (6)	
Resolution		15 bits + sign	11 bits + sign or 12 bits	10 bits	9 bits + sign	12 bits	10 bits	15 bits + sign		
Dimensions W x D x H (mm)		18.4 x 70 x 128.3		13.9 x 70 x 128.3				18.4 x 70 x 128.3		
Reference	Module (8)	Standard	STBACO0120K	STBAVO1250K	-	-	STBACO1210K	-	STBACO0220K	STBAVO0200K
		HART compliant	-	-	-	-	-	-	STBACO8220K (7)	-
	Basic	-	-	STBAVO1255K	STBAVO1265K	-	STBACO1225K	-	-	
Base		STBXBA2000		STBXBA1000				STBXBA2000		

## Application-specific modules



Type of module (1)		For motor starters TeSys model U	Counter	HART Interface module	
Connection by connector		4 RJ45	Spring STBXTS2150 (2)	Spring STBXTS2150	
Number of inputs/outputs		12 I / 8 O	4 I / 2 O	-	
Input voltage		24 VDC	24 VDC	-	
Output voltage/current		24 VDC/0.1 A per channel	24 VDC/0.5 A	-	
Number of channels		4 starters-controllers	1 counter channel 40 kHz	4 channels compatible with 4...20mA HART signals	
Dimensions W x D x H (mm)		28.1 x 70 x 128.3		28.1 X 70 X 128.3	
Reference	Module (8)	Standard	STBEPI2145K	STBEHC3020K	STBAHI8321KC
	Base	STBXBA3000		STBXBA3000	
Connection cables		(9)	-	-	

(1) Grounding kit (recommended for counter > 40 kHz): STBXSP3000 (connecting support) + STBXSP3010 (1.5...6 mm<sup>2</sup> cables) + STBXSP3020 (5...11 mm<sup>2</sup> cables)  
 (2) To be ordered separately, sold in lots of 20. (3) Multirange temperature probe thermocouples B, E, J, K, R, S, T. Thermal probe Pt 100, Pt 1000, Ni 100, Ni 1000, cu 10, ± 80 mV.  
 (4) 4 HART-tolerant channels (5) Input signal selectable / channel 0...20 mA and 4...20 mA (6) Input signal selectable / channel 1...5 VDC, 0...5 VDC, 0...10 VDC, ± 5 VDC and ± 10 VDC  
 (7) 2 Hart compliant channels. (8) Kit reference including module, base and terminal  
 (9) LU9R03 (0,3 m), LU9R10 (1 m), 490NTW00002 (2 m), LU9R30 (3 m), 490NTW00005 (5 m), 490NTW00012 (12 m)

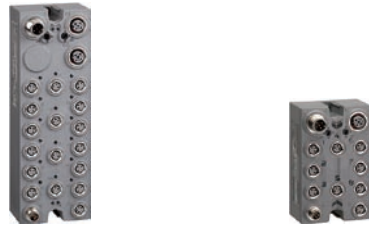


Type of module	CANopen interface blocks with digital I/O		
Number of channels	8 I/O	16 I/O	16 I/O
Number, type of inputs	8 sink (1)	16 sink (1)	16 sink (1)
Number, type of outputs	8 transistor / source (2)	16 transistor / source (2)	16 transistor / source (2)
Sensor / actuator connection	8 female M8 connectors	16 female M8 connectors	8 female M12 connectors
Communication bus	CANopen TM7 bus		
References	<b>TM7NCOM08B</b>	<b>TM7NCOM016B</b>	<b>TM7NCOM016A</b>

(1) Sink inputs: positive logic

(2) Source outputs: positive logic

### Digital I/O expansion blocks



Type of module	Analog I/O expansion blocks		
Input voltage	24 VDC IEC type 1		
Output voltage	24 VDC		
Type of inputs	Sink (positive logic)		
Type of outputs	Transistor / source (positive logic)		
Diagnostics	By expansion block, channel, communication on TM7 bus		
Communication bus	TM7 bus		
Output current	0.5 A		2A
Sensor / actuator connection	M8 connectors	M12 connectors	M8 connectors
References	8 inputs <b>TM7BDI8B</b>	–	–
	8 configurable I/O <b>TM7BDM8B</b>	–	–
	16 inputs <b>TM7BDI16B</b>	<b>TM7BDI16A</b>	–
	16 configurable I/O <b>TM7BDM16B</b>	<b>TM7BDM16A</b>	–
	8 outputs –	–	<b>TM7BDO8TAB</b>

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### Analog I/O expansion blocks



Type of module	Analog I/O expansion blocks			
Input range	Voltage	Current 0...20 mA	Temperature probe Pt100 / Pt1000	J, K, S thermocouple
Output range	Voltage -10... + 10 V DC	Current 0...20 mA	–	–
Type of inputs	Sink (positive logic)			
Type of outputs	Transistor / source (positive logic)			
Diagnostics	By expansion block, channel, communication on TM7 bus			
Communication bus	TM7 bus			
Sensor / actuator connection	M12 connectors			
Resolution	11 bit + sign	12 bit	16 bit	16 bit
References	2 inputs/2 outputs <b>TM7BAM4VLA</b>	<b>TM7BAM4CLA</b>	–	–
	4 inputs <b>TM7BAI4VLA</b>	<b>TM7BAI4CLA</b>	<b>TM7BAI4TLA</b>	<b>TM7BAI4PLA</b>
	4 outputs <b>TM7BAO4VLA</b>	<b>TM7BAO4CLA</b>	–	–

# Modicon Momentum \_\_\_\_\_ Distributed I/O and processors

## Discrete I/O modules



Type of module	Multibus discrete inputs			
Connection	By screw terminals 170XTS00100 or spring terminals 170XTS00200 (to be ordered separately)			
Input voltage	24 VDC	120 VAC	230 VAC	
Number of channels	16 (1 common point)	32 (2 common points)	16 (2 common points)	
Dimensions W x D x H (mm)	125 x 47.5 x 141.5 (with communication modules or processors) 144 x 70 x 141.5 (with M1/M1E processors and optional modules)			
Reference	170ADI34000	170ADI35000	170ADI54050	170ADI74050



Type of module	Multibus discrete outputs					
	Solid state			Triac		
Connection	By screw terminals 170XTS00100 or spring terminals 170XTS00200 (to be ordered separately)					
Output voltage	24 VDC		120 VAC		230 VAC	
Number of protected channels	16 (2 common pts)	32 (2 common pts)	8 (2 common pts)	16 (2 common pts)	8 (2 common pts)	16 (2 common pts)
Output current	Per channel	0,5 A	0,5 A	2 A	0,5 A	0,5 A
	Per group of channels	4 A	8 A	4 A	4 A	4 A
	Per module	8 A	16 A	8 A	8 A	8 A
Dimensions W x D x H (mm)	125 x 47.5 x 141.5 (with communication modules or processors) 144 x 70 x 141.5 (with M1/M1E processors and optional modules)					
Reference	170ADO34000	170ADO35000	170ADO53050	170ADO54050	170ADO73050	170ADO74050



Type of module	Multibus discrete I/O							
	Solid state			Relay		Triac		
Connection	By screw terminals 170XTS00100 or spring terminals 170XTS00200 (to be ordered separately)							
Number of channels	Inputs	16 (1 common pt)	16 (4 com. pts)	16 (1 com. pt)	10 (1 common pt)			
	Input logic	Positive	Positive (2)	Negative	Positive			–
	Outputs	16 (1 common pt)	16 (2 common pts)	8/4 (1 com. pt)	12	8 (2 common pts)		8 (1 com. pt)
Input voltage	12...48 VDC	24 VDC					120 VAC	
Output voltage	12...48 VDC	24 VDC		24...230 VAC/20...115 VDC			120 VAC	
Output current	Per output	0,5 A	0,5 A	2 A	0,5 A	2 A	0,5 A	
	Per group of channels	–	4 A	4 A	4/2 A	8 A	4 A	
	Per module	8 A	8 A	8 A	6 A	16 A	4 A	
Dimensions W x D x H (mm)	125 x 47.5 x 141.5 (with communication modules or processors) 144 x 70 x 141.5 (with M1/M1E processors and optional modules)							
Reference	170ADM85010	170ADM35010	170ADM35015	170ADM37010	170ADM39010	170ADM39030	170ARM37030	170ADM69051

(2) For a version with high-speed positive logic, replace 0 at the end of the reference with 1. E.g. 170ADM35010 becomes 170ADM35011

Connection accessories: See [www.schneider-electric.com](http://www.schneider-electric.com)

# Modicon Momentum Distributed I/O and processors Analog I/O modules



Type of module	Multibus analog inputs		
Connection	By screw terminals 170XTS00100 or spring terminals 170XTS00200 (to be ordered separately)		
Number of channels	8 isolated	16 with common point	4 isolated
Input signal	$\pm 5\text{ V}$ , $\pm 10\text{ V}$ , $\pm 20\text{ mA}$ , 1...5 V, 4...20 mA	$\pm 5\text{ V}$ , $\pm 10\text{ V}$ , 4...20 mA	Multi-range $\pm 25\text{ mV}$ , $\pm 10\text{ mV}$ (1)
Resolution	14 bits + sign, 15 bits unipolar	12 bits + sign	15 bits + sign
Dimensions W x D x H (mm)	125 x 47.5 x 141.5 (with communication modules or processors) 144 x 70 x 141.5 (with M1/M1E processors and optional modules)		
Reference	<b>170AAI03000</b>	<b>170AAI14000</b>	<b>170AAI52040</b>

(1) Temperature probe: Pt 100, Pt 1000, Ni 100, Ni 1000, Thermocouple: B, E, J, K, N, R, S, T.



Type of module	Multibus analog outputs		Analog I/O and multibus discrete I/O			
Connection	By screw terminals 170XTS00100 or spring terminals 170XTS00200 (to be ordered separately)					
Number of channels	Inputs	–	4 differential + 4 discrete		6 with com pt + 8 discrete (24 VDC)	
	Outputs	4	2 + 2 discrete (24VDC)	2 + 2 discrete (12VDC)	4 with com pt + 8 discrete (24 VDC)	
Input signal	$\pm 10\text{ V}$ , 0...20 mA	$\pm 10\text{ V}$ , 4...20 mA	$\pm 5\text{ V}$ , $\pm 10\text{ V}$ , $\pm 20\text{ mA}$ , 1...5 V, 4...20 mA	0...10 V	$\pm 10\text{ V}$	
Output signal	–		$\pm 10\text{ V}$ , 4...20 mA	0...10 V	$\pm 10\text{ V}$	
Resolution	12 bits + sign		12...14 bits dep. on signal	14 bits	14 bits	
Dimensions W x D x H (mm)	125 x 47.5 x 141.5 (with communication modules or processors) 144 x 70 x 141.5 (with M1/M1E processors and optional modules)					
Reference	<b>170AAO12000</b>	<b>170AAO92100</b>	<b>170AMM09000</b>	<b>170AMM09001</b>	<b>170ANR12090</b>	<b>170ANR12091</b>

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## Application-specific I/O modules



Type of module	High-speed counter	Discrete I/O with Modbus port
Connection	By screw terminals 170XTS00100 or spring terminals 170XTS00200 (to be ordered separately)	
Type of inputs for	Incremental or absolute encoders	RS 485 Modbus port
Operating voltage	24 VDC	120 VAC
Counting frequency	200 kHz	–
Number of channels	2 independent	–
Number of discrete I/O	2 x 3 inputs/2 x 2 outputs	6 inputs/3 outputs
Dimensions W x D x H (mm)	125 x 47.5 x 141.5 (with communication modules or M1/M1E processors) 144 x 70 x 141.5 (with M1/M1E processors and optional modules)	
Reference	<b>170AEC92000</b>	<b>170ADM54080</b>



# Modicon Momentum \_\_\_\_\_ Distributed I/O and processors

## Communication modules



Type of module	Ethernet TCP/IP network		Fipio fieldbus	INTERBUS (1) fieldbus	Profibus DP fieldbus
Speed	10 Mbps	10/100 Mbps	1 Mbps	0.5 Mbps	9.6 K...12 Mbps
Manager PLC	-		Premium	-	-
Redundancy	No		No	No	No
Standard services	Modbus TCP/IP		-	-	-
Reference	170ENT11002	170ENT11001	170FNT11001	170INT11000 (1)	170DNT11000

(1) Generation 4, twisted pair medium: 170INT11003, with optical fiber medium: 170INT12000



Type of module	Other networks Modbus Plus		DeviceNet
Speed	1 Mbps		0.5 Mbps
Manager PLC	Premium or Quantum	Quantum	-
Redundancy	No	Yes	No
Standard services	-		-
Reference	170PNT11020	170PNT16020	170LNT71000

## Optional modules for M1/M1E processors



Type of module (2)	Modbus Plus		Asynchronous serial link
Communication ports	1 Modbus Plus	2 redundant Modbus Plus	RJ45
Real-time clock	Integrated, ± 13 sec/day accuracy		
Connection	By 9-way SUB-D connector		
Reference	172PNN21022	172PNN26022	172JNN21032

(2) Include save battery of the M1/M1E processors application and data memories.

## Connection accessories

Type	RS 232C communication cable		
Length	1 m	3 m	6 m
Reference	110XCA28201	110XCA28202	110XCA28203

## Power supply module (3)



Type of power supply module for	Momentum processors
Input voltage	120 or 230 VAC (selected by jumper)
Output voltage	24 VDC
Output current	0.7 A
Dimensions W x D x H (mm)	73 x 44.5 x 146
Reference	170CPS11100

(3) For power supplies, see chapter 5.

# Modicon Momentum Distributed I/O and processors M1/M1E processors



Type of processor		M1			
Number of I/O	Discrete	2048 I/O		2048 I/2048 Q	
	Registers	2048 words		4096 words	
Integrated communication ports	Modbus	1 RS 232C	1 RS 232C + 1 RS 485	1 RS 232C	1 RS 232C + 1 RS 485
	Ethernet TCP/IP	–			
	I/O bus (1)	–		1 I/O port	–
Transparent Ready	Embedded Web server	–			
Memory capacity	RAM	64 Kb		512 Kb	
	Flash	256 Kb		512 Kb	
	User, 984 LL language (2)	2.4 K		12 K	
	User, IEC language (3)	–		160 K	
	Data	2 K		4 K	
Cycle time		1 ms/K	1 ms/K	0.63 ms/K	1 ms/K
Reference		<b>171CCS70000</b>	<b>171CCS78000</b>	<b>171CCS76000</b>	<b>171CCC78010</b>

(1) I/O bus derived from INTERBUS bus.

(2) ProWORX 32 or Concept programming software.

(3) Concept programming software.



Type of processor		M1	M1E			
Number of I/O	Discrete	8192 I/O				
	Registers	26048 words				
Integrated communication ports	Modbus	1 RS 232C	1 RS 485	–		
	Ethernet TCP/IP	–		1 integrated Ethernet port		
	I/O bus (1)	1 I/O port	–	1 I/O port		
Transparent Ready	Embedded Web server	–		Standard services (class A10)		
Memory capacity	RAM	512 Kb		544 Kb		
	Flash	512 Kb		1 Mb	512 Kb	1 Mb
	User, 984 LL language (2)	18 K				
	User, IEC language (3)	240 K	–	200 K	–	200 K
	Data	24 K				
Cycle time		1 ms/K	0.3 ms/K			
Reference		<b>171CCC76010</b>	<b>171CCC98020</b>	<b>171CCC98030</b>	<b>171CCC96020</b>	<b>171CCC96030</b>

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Type of processor		171 CBB97030
Integrated communication ports	Modbus	1 RS 232/485
	Ethernet TCP/IP	4 integrated Ethernet port
Transparent Ready	Embedded Web server	Standard services (class B)
Memory capacity	RAM	512 Kb
	Flash	1 Mb
	User, 984 LL language (2)	18 K
	User, IEC language (3)	200 K
	Data	24 K
Cycle time		0.25 ms/K
Reference		<b>171CBB97030</b>

Connection accessories: See [www.schneider-electric.com](http://www.schneider-electric.com)



Type of connection sub-base	Optimum			
Number of channels	16	16		
Max. current per channel	0.5 A	0.5 A		
Control voltage / output voltage	24 VDC / 24 VDC	24 VDC / 24 VDC		
LED per channel	–	With		
Number of terminals per channel/on row number	1/2	1/1	2/2	3/3
Dimensions W x D x H (mm)	55 x 59 x 67	106 x 60 x 49		
References	–	ABE7H16C11	ABE7H16C21	ABE7H16C31
Cable L = 1 m	ABE7H20E100 (1)	–	–	–
Cable L = 2 m	ABE7H20E200 (1)	–	–	–
Cable L = 3 m	ABE7H20E300 (1)	–	–	–
Connection cable recommended for Modicon, TSX Micro and Premium PLCs, L = 1 m (2)	ABFH20H100			

(1) Connection cable supplied for PLCs.

(2) For a 2 m length cable, replace the number 1 in the reference by 2, and for a 3 m length, by 3. (Example: ABFH20H100 becomes ABFH20H200).



Type of connection sub-base	Universal					
Number of channels	16					
Max. current per channel	0.5 A					
Control voltage / output voltage	24 VDC / 24 VDC					
LED per channel	–	With	–	–	With	With
Number of terminals per channel/on row number	1/1	1/1	1/2	2/2	2/2	3/3
Dimensions W x D x H (mm)	125 x 58 x 70		84 x 58 x 70	125 x 58 x 70		
References	ABE7H16R10	ABE7H16R11	ABE7H16R50	ABE7H16R20	ABE7H16R21	ABE7H16R31
Connection cable recommended for Modicon, TSX Micro and Premium PLCs, L = 1 m: ABFH20H100 (2)						

(2) For a 2 m length cable, replace the number 1 in the reference by 2, and for a 3 m length, by 3. (Example: ABFH20H100 becomes ABFH20H200).



Type of connection sub-base	For counter and analogue channels	Passive distribution with shielding continuity	Distribution and supply of analogue channels
Number of channels	1 counter channel (3)	8	8
Max. current per channel	25 mA	25 mA	25 mA
Control voltage / output voltage	24 VDC / 24 VDC		
Number of terminals per channel	2	2 or 4	2 or 4
Dimensions W x D x H (mm)	143 x 58 x 70	125 x 58 x 70	125 x 58 x 70
References	ABE7CPA01	ABE7CPA02	ABE7CPA03
Connection cable recommended for Modicon PLCs (4)	TSX Micro L = 2.5 m Premium L = 3 m	TSXCCPS15	–
		TSXCAP030	–

(3) Or 8 inputs + 2 outputs, analogue .

(4) Connection cables available for other PLCs, please see [www.schneider-electric.com](http://www.schneider-electric.com)



Type of connection sub-base	With soldered solid-state relay inputs	With soldered solid-state relay outputs	With soldered electro-mechanical relay outputs
Number of channels	16	16	16
Max. current per channel	12 mA	0.5 A	2 A   5 A
Input voltage / output voltage	24 VDC / -   110 VAC / -	- / 24 VDC	- / 5...30 VDC, 250 VAC
Number of contacts	-	-	1 N/O
Polarity distribution	-	-	(1)   Volt-free
Number of terminals per channel	2		
Dimensions W x D x H (mm)	206 x 58 x 77		
References	<b>ABE7S16E2B1</b>   <b>ABE7S16E2F0</b>	<b>ABE7S16S2B0(2)</b>   <b>ABE7S16S1B2</b>	<b>ABE7R16S111</b>   <b>ABE7R16S210</b>

Connection cable recommended for Modicon, TSX Micro and Premium PLCs, L = 1 m: **ABFH20H100** (3)

(1) Contact common per group of 8 channels.

(2) With fault detection signal (can only be used with modules with protected outputs).

(3) For a 2 m length cable, replace the number 1 in the reference by 2, and for a 3 m length, by 3. (Example: ABFH20H100 becomes ABFH20H200).



Type of connection sub-base	With plug-in electromechanical relays				
Number of channels	16				
Max. current per channel	5 A	2.5 A		4 A	5 A
Control voltage / output voltage	24 VDC / 5...24 VDC, 230 VAC				
Number of contacts	1 N/O		1 C/O		2 C/O
Polarity distribution	(4)	(5)	Volt-free		
Number of terminals per channel	2	2 or 3		2 to 6	
Dimensions W x D x H (mm)	110 x 54 x 89	211 x 64 x 89		272 x 74 x 89	
References	<b>ABE7R16T111</b>	<b>ABE7R16T212</b>	<b>ABE7R16T210</b>	<b>ABE7R16T230</b>	<b>ABE7R16T330</b>   <b>ABE7R16T370</b>

Connection cable recommended for Modicon, TSX Micro and Premium PLCs, L = 1 m: **ABFH20H100** (6)

(4) Contact common per group of 4 channels.

(5) Common on both poles.

(6) For a 2 m length cable, replace the number 1 in the reference by 2, and for a 3 m length, by 3. (Example: ABFH20H100 becomes ABFH20H200).

### Connection cables for PLCs (7)



Input/Output functions	Discrete	Analogue	Analogue and counter	Counter	Axis control
References					
Cable L = 1 m	<b>ABFH20H100</b>	-	-	-	-
Cable L = 2 m	<b>ABFH20H200</b>	<b>ABFY25S200</b>	-	-	<b>TSXCXP213</b>
Cable L = 2.5 m	-	-	<b>TSXCCPS15</b>	<b>TSXCCPH15</b>	-
Cable L = 3 m	<b>ABFH20H300</b>	<b>TSXCAP030</b>	-	-	-
Cable L = 6 m	-	-	-	-	<b>TSXCXP613</b>

(7) Modicon, TSX Micro and Premium PLCs.

For other connection cables and accessories, please see [www.schneider-electric.com](http://www.schneider-electric.com)



Type of connection sub-base	Discrete outputs			Relay
	Number of channels	16	16	16
Type of outputs	16 I (1 common for 16 channels)	16 O (1 common for 16 channels)	16 O, fuse protected (1 common for 16 channels)	16 O (1 common for 4 channels)
Voltage / current of outputs	24 VDC / 5 mA	24 VDC / 0.1 A		Relay: 5...30 VDC, 250 VAC / 3 A
LED per channel	–		With	–
Number of terminals per channel/row number	2/2			
Dimensions W x D x H (mm)	106 x 60 x 49		130 x 62.5 x 83	
References	<b>ABE7E16EPN20</b>	<b>ABE7E16SPN20</b>	<b>ABE7E16SPN22</b>	<b>ABE7E16SRM20</b>

## Connection cables for Twido and Modicon M238



Type of cable	For linking Twido base and Modicon Telefast sub-base	For linking discrete I/O expansion modules Twido or Modicon M238 and Modicon Telefast sub-base
For use with	TWDLMDA20DTK/40DTK	TM2DI16DK/32DK/DDO16TK/32TK
Type of connectors	HE10, 26-pin, at either end	HE10, 20-pin, at either end
References	Cable L = 0.5 m L = 1 m L = 2 m	ABFT20E050 ABFT20E100 ABFT20E200
	ABFT26B050 ABFT26B100 ABFT26B200	

## Accessories

Type of accessory	Optional clip-in terminals	
Number of linked terminals	20	12 + 8
References	<b>ABE7BV20</b>	<b>ABE7BV20TB</b>



Type of connection		To PLC using multicore cable		
Number of channels		4	8	
Type of female connector		M12, 5-pin	M12, 5-pin	
Max. number of signals		8	16	
Max. current per channel		4 A		
Max. current per splitter box		16 A (1 mm <sup>2</sup> )		
Product certification		cULus		
Dimensions W x D x H (mm)		50.2 x 42 x 92.2	50.2 x 42 x 149.2	
References	Without LEDs	Cable L = 5 m	ABE9C1240L05	ABE9C1280L05
		Cable L = 10 m	ABE9C1240L10	ABE9C1280L10
	With LEDs (1)	Cable L = 5 m	ABE9C1241L05	ABE9C1281L05
		Cable L = 10 m	ABE9C1241L10	ABE9C1281L10

(1) Green LED: power supply status, yellow LED: channel status.

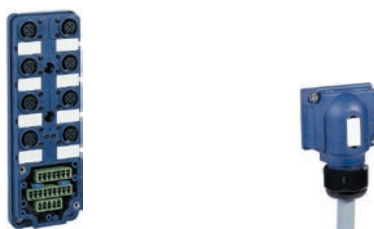


Type of connection		To PLC using M23 connector	
Number of channels		4	8
Type of female connector		M12, 5-pin	M12, 5-pin
Max. number of signals		8	16
Max. current per channel		4 A	
Max. current per splitter box		16 A	
Product certification		cULus	
Dimensions, W X D x H		50.2 x 36.5 x 92.2	50.2 x 36.5 x 149.2
References	Without LEDs	ABE9C1240C23	ABE9C1280C23
	With LEDs (1)	ABE9C1241C23	ABE9C1281C23

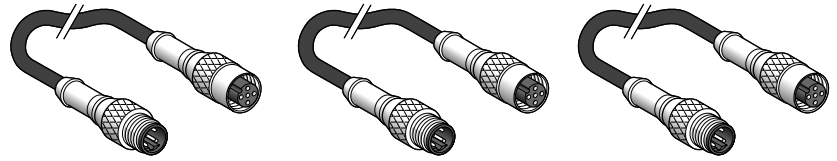
(1) Green LED: power supply status, yellow LED: channel status.

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## Accessories

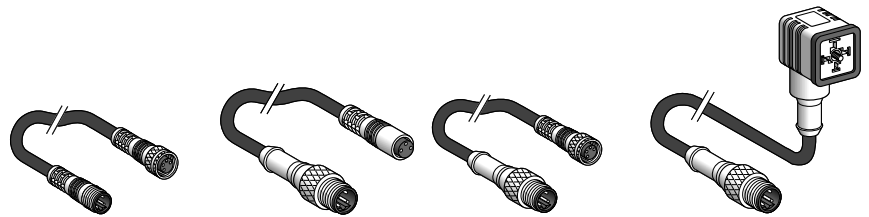


Type of accessory		Splitter boxes w/o cable		Terminal connectors		Sealing plugs (sold in lots of 10)
		Without LEDs	With LEDs	Cable L = 5 m	Cable L = 10 m	
References	4-channel	ABE9C1240M	ABE9C1241M	ABE9XCA1405	ABE9XCA1410	–
	8-channel	ABE9C1280M	ABE9C1281M	ABE9XCA1805	ABE9XCA1810	–
	for Ø12 connector	–	–	–	–	FTXCM12B



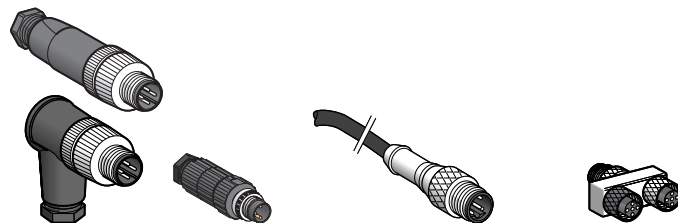
Type			Male / Female jumper cables			
Type of male connector, interface side			M12, 4-pin, straight, screw thread	M12, 4-pin, straight, screw thread	M12, 5-pin, straight, screw thread	M12, 5-pin, straight, screw thread
Type of female connector, sensor side			M12, 3-pin, straight, screw thread	M12, 4-pin, straight, screw thread	M12, 5-pin, straight, screw thread	M12, 5-pin, straight, screw thread
Cable			PUR, black	PUR, black	PUR, black	PUR, black
References	Cable	L = 1 m	XZCR1511040A1	XZCR1511041C1	XZCR1511064D1	XZCR1511064D1
		L = 2 m	XZCR1511040A2	XZCR1511041C2	XZCR1511064D2	XZCR1511064D2

M8/M8, M8/M12 and M12/DIN jumper cables



Type			Male / Female jumper cables				
Type of male connector, interface side			M8, 3-pin straight, screw thread	M12, 3-pin straight, screw thread	M12, 3-pin straight, screw thread	M12, 3-pin straight, screw thread	M12, 3-pin straight, screw thread
Type of female connector, sensor side			M8, 3-pin straight, screw thread	M8, 3-pin straight, clip together	M8, 3-pin straight, screw thread	M8, 3-pin straight, screw thread	DIN 43650A elbowed, screw thread
Cable			PUR, black	PUR, black	PUR, black	PUR, black	PUR, black
References	Cable	L = 1 m	XZCR2705037R1	XZCR1501040G1	XZCR1509040H1	XZCR1523062K1	XZCR1523062K1
		L = 2 m	XZCR2705037R2	XZCR1501040G2	XZCR1509040H2	XZCR1523062K2	XZCR1523062K2

Pre-wired connectors and splitter box



Type			Connectors		Pre-wired connectors		Splitter box "Y"	
Type of male connector, interface side			M12, 4-pin	M8, 3-pin	M12, 5-pin, straight, screw thread	1 x M12	1 x M12	
Type of female connector, sensor side			-	-	-	2 x M12	2 x M8	
Cable			-	-	PUR, black	-	-	
References	Straight connector, screw thread		XZCC12MDM40B	XZCC8MMDM30V	-	FTXCY1212	FTXCY1208	
	Elbowed connector, screw thread		XZCC12MCM40B	-	-	-	-	
	Cable	L = 0.5 m	-	-	XZCP1564L05	-	-	
		L = 2 m	-	-	XZCP1564L2	-	-	

# Notes

