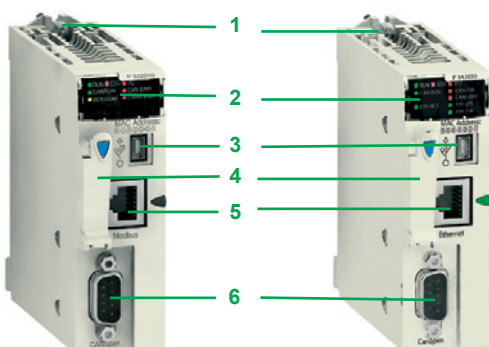


Modicon M340 automation platform

CANopen machine and installation bus

2



BMXP3420102
BMXP3420102CL

BMXP3420302
BMXP3420302CL

Description

BMXP3420102/20102CL and **BMXP3420302/20302CL** Performance processors on the Modicon M340 platform have an integrated CANopen communication port. They feature the following on the front panel:

- 1 A safety screw for locking the module in its slot in the rack, marked "00".
- 2 A display block comprising at least:
 - CAN RUN LED (green): Integrated machine/installation bus operational
 - CAN ERR LED (red): Integrated machine/installation bus fault
- 3 A mini B USB connector for a programming terminal
- 4 A slot equipped with Flash memory card for backing up the application (1)
- 5 An RJ45 connector for serial link (with **BMXP3420102/20102CL** model) or Ethernet Modbus/TCP port (with **BMXP3420302/20302CL** model)
- 6 A 9-way SUB-D connector for the CANopen master machine and installation bus

Complementary characteristics

The following characteristics complement those introduced in the communication selection guide on page 2/4:

- Data rate: 20 Kbps to 1 Mbps
- Maximum length of CANopen bus (2):
 - 20 m/65.62 ft at 1 Mbps, 40 m/131.23 ft at 800 Kbps, 100 m/328.08 ft at 500 Kbps, 250 m/820.21 ft at 250 Kbps
 - 500 m/1640.42 ft at 125 Kbps, 1000 m/3280.83 ft at 50 Kbps, 2500 m/8202.08 ft at 20 Kbps
- Maximum length of tap-offs on one tap junction (3):
 - 0.6 m/1.97 ft at 1 Mbps, 6 m/19.68 ft at 800 Kbps, 10 m/32.81 ft at 500 Kbps, 10 m/32.81 ft at 250 Kbps
 - 10 m/32.81 ft at 125 Kbps, 120 m/393.70 ft at 50 Kbps, 300 m/984.25 ft at 20 Kbps
- Limitation per segment:
 - Max. number of products: 64 at 1 Mbps, 32 at 800 Kbps, 16 at 500 Kbps
 - Maximum length of segment (4): 160 m/524.93 ft at 1 Mbps, 185 m/606.95 ft at 800 Kbps, 205 m/672.57 ft at 500 Kbps

Modicon M340 Performance processors with integrated CANopen bus link

Modicon M340 processor modules are supplied with the Flash card **BMXRMS008MP** (1).

This card performs the following actions transparently:

- Backing up the application (program, symbols and constants) supported in the processor internal RAM that is not backed up
- Activation of the Transparent Ready class B10 standard web server (with **BMXP3420302/20302CL** processor)
- This card can be replaced by another card featuring a file storage option (see page 1/13).



BMXP3420102
BMXP3420102CL



BMXP3420302
BMXP3420302CL

Capacitance	Max. no. of network/ bus modules	Integrated communication ports	Compatibility with Unity software (5)	Reference	Weight kg/ lb
Performance BMXP3420, 4 racks					
1024 discrete I/O 256 analog I/O 36 application-specific channels 4096 KB integrated	2 Ethernet Modbus/ TCP networks 4 AS-Interface buses	CANopen bus Modbus serial link	Version ≥ 4.1	BMXP3420102	0.210/ 0.463
				BMXP3420102CL (1)	
		CANopen bus Ethernet network Modbus/TCP	Version ≥ 4.1	BMXP3420302	0.215/ 0.474
				BMXP3420302CL (1)	

(1) Memory card must be ordered separately for the **BMXP3420102CL/302CL** processors (see page 1/13).

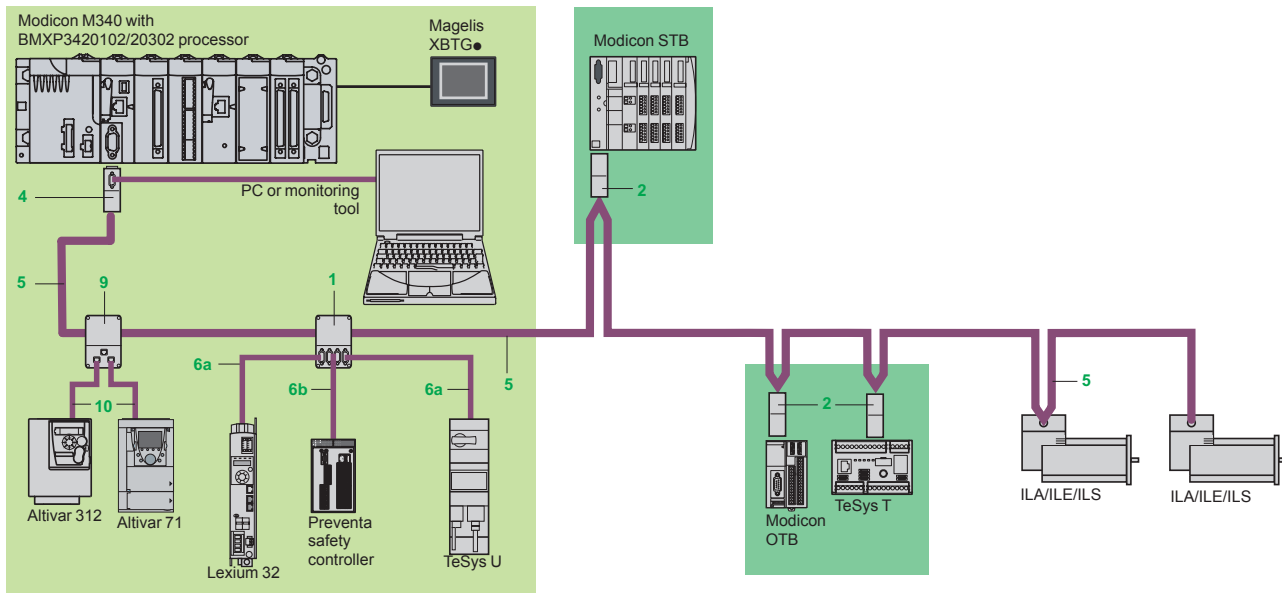
(2) Deduct 15 m/49.21 ft per repeater from the length of the bus.

(3) For other restrictions, please refer to the CANopen hardware setup manual available on our website www.schneider-electric.com.

(4) With the use of **TSXCANC•50/100/300** CANopen cables and **TSXCANC•DD03/1/3/5** preformed cordsets.

(5) See "Integration of third-party devices" paragraph on page 2/31.

CANopen bus cabling system



Note: For key and references 1, 2, ..., 17, see pages 2/34 to 2/37.

Different types of cable are available, making it possible to create any type of application, including for harsh environments (for a definition of standard and harsh environments, see page 2/34).

Several connectors are available to meet any requirement: straight or 90° angled connectors, or angled connectors with the option of connecting a PC or diagnostic pocket PC.

Power can be supplied to devices by means of cables, cordsets and tap junctions: one AWG24 pair for the CAN signals, one AWG22 pair for the power supply and the ground.

In addition to the IP 20 cabling offer, there is also an IP 67 cabling offer.

Modicon M340 automation platform

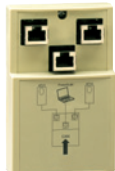
CANopen machine and installation bus

Cabling system

2



TSXCANTDM4



VW3CANTAP2



TSXCANKCDF90T



TSXCANKCDF180T



TSXCANKCDF90TP

Standard tap junctions and connectors

Designation	Description	No. (1)	Reference	Weight kg/ lb
IP 20 CANopen tap junction	4 SUB-D ports. Screw terminal block for connecting the trunk cables Line termination	1	TSXCANTDM4	0.196/ 0.432
IP 20 connectors CANopen female 9-way SUB-D. Switch for line termination	90° angled	2	TSXCANKCDF90T	0.046/ 0.101
	Straight (2)	—	TSXCANKCDF180T	0.049/ 0.108
	Right angle with 9-way SUB-D for connecting a PC or diagnostic tool	4	TSXCANKCDF90TP	0.051/ 0.112
IP 67 M12 connectors	Male	—	FTXCN12M5	0.050/ 0.110
	Female	—	FTXCN12F5	0.050/ 0.110
IP 20 CANopen tap junctions for Altivar and Lexium 32	2 RJ45 ports	9	VW3CANTAP2	—

IP 20 standard cables and preformed cordsets

Designation	Description	No. (1)	Length m/ ft	Unit reference	Weight kg/ lb	
CANopen cables (AWG 24)	Standard, C€ marking: low smoke emission. Zero halogen. Flame-retardant (IEC 60332-1)	5	50/ 164.04	TSXCANCA50	4.930/ 10.869	
			100/ 328.08	TSXCANCA100	8.800/ 19.401	
			300/ 984.25	TSXCANCA300	24.560/ 54.145	
	Standard, UL certification, C€ marking: flame-retardant (IEC 60332-2)	5	50/ 164.04	TSXCANCB50	3.580/ 7.893	
			100/ 328.08	TSXCANCB100	7.840/ 17.284	
			300/ 984.25	TSXCANCB300	21.870/ 48.215	
	For harsh environments (3) or mobile installations, C€ marking: low smoke emission. Zero halogen. Flame-retardant (IEC 60332-1). Oil-resistant	5	50/ 164.04	TSXCANC50	3.510/ 7.738	
			100/ 328.08	TSXCANC100	7.770/ 17.130	
			300/ 984.25	TSXCANC300	21.700/ 47.840	
	CANopen preformed cordsets One 9-way female SUB-D connector at each end (AWG 24)	Standard, C€ marking: low smoke emission. Zero halogen. Flame-retardant (IEC 60332-1)	6a	0.3/ 0.98	TSXCANCADD03	0.091/ 0.201
				1/ 3.28	TSXCANCADD1	0.143/ 0.315
				3/ 9.84	TSXCANCADD3	0.295/ 0.650
5/ 16.40				TSXCANCADD5	0.440/ 0.970	
Standard, UL certification, C€ marking: flame-retardant (IEC 60332-2)		6a	0.3/ 0.98	TSXCANCBDD03	0.086/ 0.190	
			1/ 3.28	TSXCANCBDD1	0.131/ 0.289	
			3/ 9.84	TSXCANCBDD3	0.268/ 0.591	
			5/ 16.40	TSXCANCBDD5	0.400/ 0.882	

(1) For key to numbers, see page 2/33.

(2) For connection to Controller Inside programmable card, the VW3CANKCDF180T connector can also be used.

(3) **Standard environment:**

- Without any particular environmental constraints
- Operating temperature between + 5°C/41°F and + 60°C/140°F
- Fixed installation

Harsh environment:

- Resistance to hydrocarbons, industrial oils, detergents, solder splashes
- Relative humidity up to 100%
- Saline atmosphere
- Significant temperature variations
- Operating temperature between - 10°C/14°F and + 70°C/158°F
- Mobile installation

(4) Cordset with line termination.

Modicon M340 automation platform

CANopen machine and installation bus

Cabling system

IP 20 standard cables and preformed cordsets (continued)					
Designation	Description	No. (1)	Length m/ ft	Unit reference	Weight kg/ lb
CANopen preformed cordsets	One 9-way SUB-D connector, One RJ45 connector (AWG 24)	6b	0.5/ 1.64	TCSCCN4F3M05T	—
			1/ 3.28	TCSCCN4F3M1T	—
				VW3M3805R010 (2)	—
			3/ 9.84	TCSCCN4F3M3T	—
	Two 9-way SUB-D connectors, one male and one female	—	0.5/ 1.64	TLACDCBA005	—
			1.5/ 4.92	TLACDCBA015	—
			3/ 9.84	TLACDCBA030	—
			5/ 16.40	TLACDCBA050	—
	IP 67 standard preformed cordsets				
Designation	Description	No. (1)	Length m/ ft	Unit reference	Weight kg/ lb
CANopen preformed cordsets	Preformed cordsets of two 5-way M12 A-coded angled connectors (one male connector and one female connector)	12	0.3/ 0.98	FTXCN3203	0.40/ 0.881
			0.6/ 1.97	FTXCN3206	0.70/ 1.543
			1/ 3.28	FTXCN3210	0.100/ 0.220
			2/ 6.56	FTXCN3220	0.160/ 0.353
			3/ 9.84	FTXCN3230	0.220/ 0.485
			5/ 16.40	FTXCN3250	0.430/ 0.948

(1) For key to numbers, see page 2/33.

(2) Cordset with line termination.

Modicon M340 automation platform

CANopen machine and installation bus Cabling system

2



VW3CANA71

IP 20 connection accessories

Designation	Description	No. (1)	Length m/ ft	Reference	Weight kg/ lb
CANopen connector for Altivar 71 drive (2)	9-way female SUB-D. Switch for line termination. Cables exit at 180°	—	—	VW3CANKCDF180T	—
Adaptor for Altivar 71 drive	SUB-D to RJ45 CANopen adaptor	—	—	VW3CANA71	—
Preformed CANopen cordsets for Altivar drives	One RJ45 connector at each end	10	0.3/ 0.98	VW3CANCARR03	—
			1/ 3.28	VW3CANCARR1	—
Y-connector	CANopen/Modbus	—	—	TC SCTN011M11F	—



FTXDP21●●

IP 67 connection accessories

For Modicon FTB monobloc splitter boxes

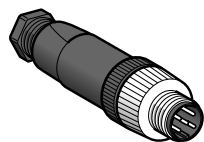
Designation	Composition	No. (1)	Length m/ ft	Reference	Weight kg/ lb
IP 67 line terminator	Equipped with one M12 connector (for end of bus)	13	—	FTXCNTL12	0.010/ 0.022
24 V ~ power supply connection cables	Equipped with two 5-way 7/8 connectors	16	0.6/ 1.97	FTXDP2206	0.150/ 0.331
			1/ 3.28	FTXDP2210	0.190/ 0.419
			2/ 6.56	FTXDP2220	0.310/ 0.683
			5/ 16.40	FTXDP2250	0.750/ 1.653
	Equipped with one 5-way 7/8 connector at one end and flying leads at the other end	17	1.5/ 4.92	FTXDP2115	0.240/ 0.529
			3/ 9.84	FTXDP2130	0.430/ 0.948
			5/ 16.40	FTXDP2150	0.700/ 1.543
T-connector for power supply	Equipped with two 5-way 7/8 connectors	—	—	FTXCNT1	0.100/ 0.220

(1) For key to numbers, see page 2/33.

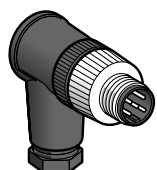
(2) For **ATV71H●●●M3**, **ATV71HD11M3X**, **HD15M3X**, **ATV71H075N4** ... **HD18N4** drives, this connector can be replaced by the **TSXCANKCDF180T** connector.

Modicon M340 automation platform

CANopen machine and installation bus
Cabling system



XZCC12DM50B



XZCC12CM50B



FTXCY1208

IP 67 connection accessories (continued)

Separate parts

Designation	Composition		Sold in lots of	Reference	Weight kg/ lb
Connectors	7/8 type, 5-way	Male	—	FTXC78M5	0.050/ 0.110
		Female	—	FTXC78F5	0.050/ 0.110
	Straight, M12 type, 5 screw terminals	Male	—	XZCC12MDM50B	0.020/ 0.044
		Female	—	XZCC12FDM50B	0.020/ 0.044
	Angled, M12 type, 5 screw terminals	Male	—	XZCC12MCM50B	0.020/ 0.044
		Female	—	XZCC12FCM50B	0.020/ 0.044
Sealing plugs	For M8 connector (sold in packs of 10)		—	FTXCM08B	0.100/ 0.220
	For M12 connector (sold in packs of 10)		—	FTXCM12B	0.100/ 0.220
	For 7/8 connector		—	FTXC78B	0.020/ 0.044
Y-connectors	Connection of two M8 connectors to M12 connector on splitter box		—	FTXCY1208	0.020/ 0.044
	Connection of two M12 connectors to M12 connector on splitter box		—	FTXCY1212	0.030/ 0.066
Diagnostics adaptor	Equipped with two M12 connectors		—	FTXDG12	0.020/ 0.044
Marker labels	For plastic splitter boxes		10	FTXBLA10	0.010/ 0.022
	For metal splitter boxes		10	FTXMLA10	0.010/ 0.022