BCS-XP300

Compact CODESYS-based controller

16 DI (4 fast), 16 DO (4 fast)
High speed counter input/PTO and PWM outputs
Ethernet TCP/IP, Serial, USB and CAN interface
CANopen Master interface
3G/4G/WiFi (external accessory via USB port)
SQL integration
DNV certified

Facts

General

Part number	66.016.120-5
Warranty	2 year
Digital inputs (DI)	16
Digital outputs (DO)	16
Ethernet TCP/IP interface	1
RS-485 serial interface	1
CAN interface	1
CANOpen Master protocol	Yes
J1939 Manager protocol	Yes
USB host port	1
Addressable input variables memory (%I)	2 KB
Addressable output variables memory (%Q)	2 KB
Addressable variables memory (%M)	1 KB
Symbolic variables memory	2 MB
Program memory	2 MB
Retain/persistent memory (user configurable)	7.5KB
Source code memory (backup)	26 MB
User files memory (backup)	8 MB
Maximum number of tasks	5
Programming languages	Instruction List (IL), Structured Text (ST), Ladder Diagram (LD), Sequential Function Chart (SFC), Function Block Diagram (FBD), Continuous Function Chart (CFC)
Online changes	Yes
Watchdog	Yes
Real-time clock (RTC)	Yes
Real-time clock (RTC) resolution	Resolution of 1 ms, max. variance of 3 seconds per day, retention time of 14 days
Status and diagnostic indication	LEDs, web pages and CPU's internal memory
Isolation, Protective earth to all	1,500 Vac / 1 minute
Isolation, Logic/RS-485/CAN/USB to all	1,500 Vac / 1 minute
Isolation, Ethernet to all	1,500 Vac / 1 minute
Isolation, Power supply/analog I/O to all	1,500 Vac / 1 minute
Isolation, Digital inputs to all	1,500 Vac / 1 minute
Isolation, Digital inputs group I0x to I1x	1,000 Vac / 1 minute
Isolation, Digital outputs to all	1,500 Vac / 1 minute
Maximum power dissipation	5 W
Maximum wire size	0.5 mm^2 (20 AWG) with ferrule, 1.5 mm^2 (16 AWG) without ferrule
IP level	IP 20
Conformal coating	Yes
Operating temperature	-20 to 60 °C
Storage temperature	-25 to 75°C
Operating and storage relative humidity	5 to 96 %, non-condensing
Standards	IEC 61131-2, CE, Electromagnetic Compatibility (EMC) and Low-Voltage Directive (LVD)
Module dimensions (W x H x D)	215.5 x 98.8 x 34.0 mm
Package dimensions (W x H x D)	270.0 x 102.0 x 40.0 mm
Weight	370 g
Weight with package	430 g

Certifications

General	CE, UL, UL 61010-2-201, cUL
Marine	DNV

RS-485

Connector	3-pin terminal block
Physical interface	RS-485
Communication direction	RS-485: half duplex
RS-485 maximum transceivers	32
Termination	Yes (Configurable)
Baud rate	9600, 19200, 38400, 57600, 115200 bps
Protocols	Master/Slave MODBUS RTU, Open protocol

CAN

Connector	3-pin terminal block
Physical interface	CAN bus
	32
Termination	Yes (Configurable)

USB

Connector	USB A Female
Physical interface	USB V2.0
Baud rate	1.5 Mbps (Low Speed), 12 Mbps (Full Speed) and 480 Mbps (High Speed)

Ethernet

Connector	Shielded female RJ45
Auto crossover	Yes
Maximum cable length	100 m
Cable type	UTP or ScTP, category 5
Baud rate	10/100 Mbps
Physical layer	10/100 BASE-TX
Data link layer	LLC
Network layer	IP
Transport layer	TCP (Transmission Control Protocol). UDP (User Datagram Protocol)
Application layer	MODBUS TCP Client and Server, MODBUS RTU Master/Slave, OPC DA Server, OPC UA Server, HTTP Server, BCS Tools programming protocol, SNTP Client, SNMP Agent (Ethernet Network Management)
Diagnostics	LED (Link/Activity)

Power supply

Nominal input voltage	24 Vdc
Input voltage	19.2 to 30 Vdc
Maximum input current (in-rush)	50A / 300 us
Maximum input current	300mA

Digital inputs

Input type	Optoisolated sink type 1. Two isolated groups of 8 inputs each
Input voltage	24 Vdc, 15 to 30 Vdc for logic level 1, 0 to 5 Vdc for logic level 0
Input impedance	4.95 kΩ
Maximum input current	6.2 mA @ 30 Vdc
Input state indication	Yes
Response time	0.1 ms
Input filter	2 ms to 255 ms – by software. The filter sampling is performed on MainTask (or Refresh function), then it's recommended to use multiple values of the task interval

Transistor digital outputs

Output type	Optoisolated transistor source type
Maximum output current	1.5 A per output. 12 A total
Leakage current	35 µA
On state resistance	105 mΩ
External power supply	19.2 to 30 Vdc
Switching time	20 us - off-to-on transition @ 24 Vdc. 500 us - on-to-off transition @ 24 Vdc
Maximum switching frequency	250 Hz
Configurable parameters	Yes
Output state indication	Yes
Output protections	Yes, protection against surge voltages

Smart Engineering Resources

NMEA 0183 listener - CODESYS library (https://smartstore.beijerelectronics.com/en/Smart__Engi__hstc=133514769.4931d322ad38576815e60802e8ae6d22.1682440547395.1686252217287.168626

BFI-P2/E3 and Nexto Xpress by CANopen (https://smartstore.beijerelectronics.com/en/Smart__E__hstc=133514769.4931d322ad38576815e60802e8ae6d22.1682440547395.1686252217287.168626

JetNet ring status - CODESYS library (https://smartstore.beijerelectronics.com/en/Smart__Engine__hstc=133514769.4931d322ad38576815e60802e8ae6d22.1682440547395.1686252217287.168626

Conveyor product tracking - CODESYS library (https://smartstore.beijerelectronics.com/en/Sm library?__hstc=133514769.4931d322ad38576815e60802e8ae6d22.1682440547395.1686252217287.1686

Setting up projects for Energy Meter (https://smartstore.beijerelectronics.com/en/Smart__Eng__hstc=133514769.4931d322ad38576815e60802e8ae6d22.1682440547395.1686252217287.1686

Nexto Xpress WebVisu sample project (https://smartstore.beijerelectronics.com/en/Smart__E__hstc=133514769.4931d322ad38576815e60802e8ae6d22.1682440547395.1686252217287.1686