ABB ABB Series Service Manual

PM891K01

1. Description

Manufacturer : ABB

3. Product Information

Manufacturer : ABB

Product No : 3BSE053241R1

Product type : PM891K01 Processor Unit

Power supply : 24 V DC (19.2-30 V DC)

Ethernet channels : 2

Package including:

- PM891 CPU Module
- TB850, CEX-bus terminator
- TB853, RCU Control Link Terminator
- No license included

Clock Frequency : 450 MHz

Memory : 256 MB

Only compatible for 800xA 6.0.2 and onwards.

Performance : 0.043 ms

Processor type : MPC8270

Dimensions (HxWxD), approx : 18.6cm x 17.4cm x 9.4cm

Weight: 2.1 Kg

General info

Article number 3BSE053241R1 (PM891K01)

Redundancy No

High Integrity No

Clock Frequency 450 MHz

Performance, 1000 boolean operations 0.043 ms

Performance 0.043 ms

Memory 256 MB

RAM available for application 208.985 MB

Flash memory for storage Yes

Detailed data

Processor type MPC8270

Switch over time in red. conf. max 10 ms

No. of applications per controller 32

No. of programs per application 64

No. of diagrams per application 128

No. of tasks per controller 32

Number of different cycle times 32

Cycle time per application programs Down to 1 ms

Flash PROM for firmware storage 16 MB

Power supply 24 V DC (19.2-30 V DC)

Power consumption +24 V typ/max 660/750 mA

Power dissipation 15.8 W (18 W max)

Redundant power supply status input Yes

Built-in back-up battery No

Clock synchronization 1 ms between AC800M controllers by CNCP protocol

Event queue in controller per OPC client Up to 3000 events

AC 800M transm. speed to OPC server 36-86 events/sec, 113-143 data messages/sec

Comm. modules on CEX bus 12

Supply current on CEX bus Max 2.4 A

I/O clusters on Modulebus with non-red. CPU 0 eletrical + 7 optical

I/O clusters on Modulebus with red. CPU 0 eletrical + 7 optical

I/O capacity on Modulebus Max 84 modules

Modulebus scan rate 0 - 100 ms (actual time depending on number of I/O modules)

Supply current on Electrical Modulebus 24 V : max 1.0 A

5 V : max 1.5 A

Ethernet channels 2

Ethernet interface 10/100 Mbit/s

Control Network protocol MMS (Manufacturing Message Service) and IAC (Inter Application Communication)

Recommended Control Network backbone 100 Mbit/s switched Ethernet

Real-time clock stability 50 ppm (approx 0.5h / year)

RS-232C interface 1 for service tool (COM 4)

RS-232C interface (COM3) (non red. only) Not supported

RS-232C interface (COM4) (non red. only) RS-232C, 9 600 baud, RJ-45 female (8-pole), opto isolated, no RTS-CTS support

Environment and certification

Temperature, Operating 0 to +55 °C (+32 to +131 °F)

Temperature, Storage -40 to +70 °C (-40 to +158 °F)

Temperature changes 3 °C/minutes according to IEC/EN 61131-2

Pollution degree Degree 2 according to IEC/EN 61131-2

Corrosion protection G3 compliant to ISA 71.04

Relative humidity 5 to 95 %, non-condensing

Emitted noise -

Vibration 10 < f < 50 Hz: 0.0375 mm amplitude,

50 < f < 150 Hz: 0.5 g acceleration,

5 < f < 500 Hz: 0.2 g acceleration

Rated Isolation Voltage 50 V

Dielectric test voltage 500 V a.c.

Protection class IP 20 according to EN 60529, IEC 529

Altitude 2000 m (6562 ft) according to IEC/EN 61131-2

Emission & Immunity EN 61000-6-4, EN 61000-6-2

Environmental conditions Industrial

CE Mark Yes

Electrical Safety EN 50178, IEC 61131-2, UL 61010-1, UL 61010-2-201

Hazardous location UL 60079-15, cULus Class 1, Zone 2, AEx nA IIC T4, ExnA IIC T4Gc X

Marine certificates ABS, BV, DNV-GL, LR

TUV Approval No

RoHS compliance EN 50581:2012

WEEE compliance DIRECTIVE/2012/19/EU

Dimensions

Width 174 mm (6.85 in.)

Height 186 mm (7.32 in.)

Depth 94 mm (3.70 in.)

Weight (including base) 1600 g (3.5 lbs)