ABB ABB Series Service Manual

AX522

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3. Product Information

Ordering Data

Part no. Description

1SAP 250 000 R0001 AX522, analog input/output module, 8 AI,

8 AO, U/I/Pt100, 12 bits + sign, 2-wires

Connections Terminals 1.8, 2.8, 3.8 and 4.8 for +24 V

(UP) as well as 1.9, 2.9, 3.9 and 4.9 for 0 V

(ZP)

Rated value 24 VDC

Max. ripple 5 %

Protection against reversed voltage Yes

Rated protection fuse on UP 10 A fast

Galvanic isolation Yes, per module

Current consumption

From 24 VDC power supply at the terminals

UP/L+ and ZP/M of the CPU/bus module

Ca. 2 mA

From UP at normal operation 0.15 A + output loads

Inrush current from UP (at power up) 0.020 A2s

Max. length of analog cables, conductor cross section

> 0.14 mm²

100 m

Weight 300 g

Mounting position Horizontal or vertical with derating (output

load reduced to 50 % at 40 °C per group)

Cooling The natural convection cooling must not be

hindered by cable ducts or other parts in

the switch-gear cabinet.

Number of channels per module 8

Distribution of channels into groups 1 group of 8 channels

Connections of the channels I0- to I7- Terminals 1.0 to 1.7

Connections of the channels I0+ to I7+ Terminals 2.0 to 2.3

Input type Bipolar (not with current or Pt100/Pt1000/Ni1000)

Galvanic isolation Against internal supply and other modules

Configurability 0 V...10 V, -10 V...+10 V, 0 mA...20 mA,

4 mA...20 mA, Pt100/1000, Ni1000 (each input can

be configured individually)

Channel input resistance Voltage: > 100 kW

Current: ca. 330 W

Time constant of the input filter Voltage: 100 µs

current: 100 µs

Indication of the input signals One LED per channel

Conversion cycle 2 ms (for 8 inputs + 8 outputs), with Pt/Ni... 1 s

Resolution Range 0 V...10 V: 12 bits

Range -10 V...+10 V: 12 bits + sign

Range 0 mA...20 mA: 12 bits

Range 4 mA...20 mA: 12 bits

Conversion error of the analog values caused

by non-linearity, adjustment error at factory

and resolution within the normal range

Typ. ±0.5 % of full scale

at 25 °C

Max. ±1 % of full scale (all ranges)

at 0 °C...60 °C or EMC disturbance

Unused voltage inputs Are configured as "unused"

Unused current inputs Have a low resistance, can be left open-circuited

Overvoltage protection Yes