ABB ABB Series Service Manual

DI802

1. Description

The DI802 is an 8 channel 120 V a.c./d.c. digital input module for the S800 I/O. This module has 8 digital inputs. The a.c. input voltage range is 77 - 130 volt and the input current is 10 mA at 120 V a.c. The d.c. input range is 75 - 145 V and the input current is 2.8 mA at 110 V. The inputs are individually isolated. Every input channel consists of current limiting components, EMC protection components, input state indication LED and optical isolation barrier.

3. Product Information

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Features and benefits

8 channels for 120 V a.c./d.c. inputs with current sinking

Individually isolated channels

Voltage supervision of field input power

Input status indicators

Signal filtering

Process connection via detachable connectors

General info

Article number 3BSE022360R1

Type Digital Input

Signal specification 120 V a.c., 110 V d.c.

Number of channels 8

Signal type Current sinking

HART No

SOE No

Redundancy No

High integrity No

Intrinsic safety No

Mechanics S800L

Detailed data

Input voltage range, "0" 0..30 V a.c., 0..20 V d.c.

Input voltage range, "1" 77..130 V a.c., 75..145 V d.c.

Input impedance 12 kΩ (a.c.)

39 kΩ (d.c.)

Isolation Individually isolated channels

Filter times (digital, selectable) 2, 4, 8, 16 ms

Input frequencey range 47..63 Hz

Analog filter On/Off delay 5 / 18 ms

Maximum field cable length 200 meters (219 yards) 100 pF/m for a.c., 600 meters (656 yards) for d.c.

Rated insulation voltage 250 V

Dielectric test voltage 2000 V a.c.

Power dissipation Typ. 2.8 W

Current consumption +5 V Modulebus 50 mA

Current consumption +24 V Modulebus 0

Current consumption +24 V external 0

Supported wire size Solid: 0.05-2.5 mm², 30-12 AWG

Stranded: 0.05-1.5 mm², 30-12 AWG

Recommended torque: 0.5-0.6 Nm

Stripping length 6-7.5mm, 0.24-0.30 inch

Diagnostics

Front LED’s S(tatus) (run or fault), Channel 1-16 ("0" or "1")

Supervision Process voltage supervision on channel 8

Status indication of supervision Module Error, Module Warning, Channel Error

Environment and certification

CE mark Yes

Electrical safety EN 61010-1, UL 61010-1, EN 61010-2-201, UL 61010-2-201

Hazardous Location -

Marine certification ABS, BV, DNV, LR

Temperature, Operating 0 to +55 °C (+32 to +131 °F), approvals are issued for +5 to +55 °C

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

Pollution degree Degree 2, IEC 60664-1

Corrosion protection ISA-S71.04: G3

Relative humidity 5 to 95 %, non-condensing

Max ambient temperature 55 °C (131 °F), for vertical mounting 40 °C (104 °F)

Protection class IP20 according to IEC 60529

Mechanical operating conditions IEC/EN 61131-2

EMC EN 61000-6-4 and EN 61000-6-2

Overvoltage categories IEC/EN 60664-1, EN 50178

Equipment class Class I according to IEC 61140; (earth protected)

RoHS compliance DIRECTIVE/2011/65/EU (EN 50581:2012)

WEEE compliance DIRECTIVE/2012/19/EU

Dimensions

Width 86.1 mm (3.4”)

Depth 58.5 mm (2.3”)

Height 110 mm (4.33”)

Weight 0.24 kg (0.53 lbs.)