ABB ABB Series Service Manual

DI810

1. Description

This module has 16 digital inputs. The input voltage range is 18 to 30 volt d.c. and the input current is 6 mA at 24 V. The inputs are divided into two individually isolated groups with eight channels and one voltage supervision input in each group. Every input channel consists of current limiting components, EMC protection components, input state indication LED and optical isolation barrier. The process voltage supervision input give channel error signals if the voltage disappears. The error si

3. Product Information

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Features and benefits

16 channels for 24 V d.c. inputs with current sinking

Two isolated groups of 8 with voltage supervision

Input status indicators

MTUs that match this product

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TU810V1

General info

Article number 3BSE008508R1

Type Digital Input

Signal specification 24 V d.c.

Number of channels 16

Signal type Current sinking

HART No

SOE No

Redundancy No

High integrity No

Intrinsic safety No

Mechanics S800

Detailed data

Input voltage range, "0" -30..+5 V

Input voltage range, "1" 15..30 V

Input impedance 3.5 kΩ

Isolation Groupwise isolated from ground, 2 groups with 8 channels

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

Current limiting Sensor power can be current limited by the MTU

Maximum field cable length 600 meters (656 yards)

Rated insulation voltage 50 V

Dielectric test voltage 500 V a.c.

Power dissipation Typ. 1.8 W

Current consumption +5 V Modulebus 50 mA

Current consumption +24 V Modulebus 0

Current consumption +24 V external 0

Diagnostics

Front LED's F(ault), R(un), W(arning), Channel 1-16 ("0" or "1")

Supervision Process voltage, 1 per group

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 C1 Div 2 cULus, C1 Zone 2 cULus, ATEX Zone 2

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 in compact MTU 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/65/EU (EN 50581:2012)

WEEE compliance DIRECTIVE/2012/19/EU

Compatibility

Use with MTU TU810, TU812, TU814, TU818, TU830, TU833, TU838, TU850

Keying code AA

Dimensions

Width 45 mm (1.77”)

Depth 102 mm (4.01”), 111 mm (4.37”) including connector

Height 119 mm (4.7”)

Weight 0.15 kg (0.33 lbs.)