# ABB ABB Series Service Manual

DO814

## 1. Description

The DO814 is a 16 channel 24 V digital output module with current sinking for the S800 I/O. The output voltage range is 10 to 30 volt and the maximum continuous current sinking is 0.5 A. The outputs are protected against short circuits and over temperature. The outputs are divided into two individually isolated groups with eight output channels and one voltage supervision input in each group.

## 3. Product Information

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Each output channel consists of a short circuit and over temperature protected low side switch, EMC protection components, inductive load suppression, output state indication LED and optical isolation barrier. The process voltage supervision input give channel error signals if the voltage disappears. The error signal can be read via the ModuleBus.

Features and benefits

16 channels for 24 V d.c. current sinking outputs

2 isolated groups of 8 channels with process voltage supervision

Output status indicators

OSP sets outputs to predetermined state upon error detection

Short-circuit protection to ground and 30 V

Over-voltage and over-temperature protection

MTUs that match this product

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TU810V1

General info

Article number 3BUR001455R1

Type Digital Output

Signal specification 24 V d.c. (12-32 V d.c.), 0.5 A

Number of channels 16

Signal type Current sinking, current limiting

HART No

SOE No

Redundancy No

High integrity No

Intrinsic safety No

Mechanics S800

Detailed data

Isolation Groupwise isolated from ground

Current limiting Short circuit proof current limited output

Maximum field cable length 600 meters (656 yards)

Rated insulation voltage 50 V

Dielectric test voltage 500 V a.c.

Power dissipation Typ. 2.1 W

Current consumption +5 V Modulebus 80 mA

Diagnostics

Front LED’s F(ault), R(un), W(arning), O(SP), Channel 1-16 Status

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, 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/EN (EN 50581:2012)

WEEE compliance DIRECTIVE/2012/19/EU

Compatibility

Use with MTU TU810, TU812, TU814, TU830, TU833 or TU838

Keying code BE

Dimensions

Width 45 mm (1.77”)

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

Height 119 mm (4.7”)

Weight 0.18 kg (0.4 lbs.)