

# DO890

## ABB Ability™ System 800xA® hardware selector



The module includes Intrinsic Safety protection components on each channel for connection to process equipment in hazardous areas without the need for additional external devices.

Each channel can drive a nominal current of 40 mA into a 300-ohm field load such as an Ex-certified solenoid valve, alarm sounder unit, or indicator lamp. Open and short circuit detection can be configured for each channel. All four channels are galvanic isolated between channels and from the ModuleBus and power supply. Power to the output stages is converted from the 24 V on the power supply connections.

TU890 and TU891 Compact MTU can be used with this module and it enables two wire connections to the process devices without additional terminals. TU890 for Ex applications and TU891 for non Ex applications.

## Features and benefits

- 4 channels for 11 V, 40 mA digital outputs.
- All channels fully isolated.
- Power to drive Ex certified solenoid valves and alarm sounders.
- Output and fault status indicators for each channel.

| General info         |                 |
|----------------------|-----------------|
| Article number       | 3BSC690074R1    |
| Type                 | Digital Output  |
| Signal specification | 11 V, 40 mA     |
| Number of channels   | 4               |
| Signal type          | Solenoid driver |
| HART                 | No              |
| SOE                  | No              |
| Redundancy           | No              |
| High integrity       | No              |
| Intrinsic safety     | Yes             |
| Mechanics            | S800            |

| Detailed data                      |                                                                        |
|------------------------------------|------------------------------------------------------------------------|
| Isolation                          | Individually isolated, channel-to-channel and to circuit common ground |
| Output load                        | 100 - 5000 Ω                                                           |
| Current limiting                   | Short circuit proof current limited output                             |
| Rated insulation voltage           | 50 V                                                                   |
| Dielectric test voltage            | 500 V a.c.                                                             |
| Power dissipation                  | 4.4 W                                                                  |
| Current consumption +5 V Modulebus | Typ. 80 mA, Max. <150 mA                                               |
| Current consumption +24 V external | Typ. 250 mA, Max. <360 mA                                              |

| Diagnostics                      |                                                                                                                                                    |
|----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| Front LED's                      | F(ault), R(un), W(arning), O(SP), Channel 1-4 status                                                                                               |
| Supervision                      | Internal process supply<br>Short circuit fault detection limit < 20 Ω<br>Open circuit fault detection limit > 100 kΩ<br>Fault sense current < 4 mA |
| Status indication of supervision | 256, 512, 1024 ms                                                                                                                                  |

| Environment and certification   |                                                                                                              |
|---------------------------------|--------------------------------------------------------------------------------------------------------------|
| CE mark                         | Yes                                                                                                          |
| Electrical safety               | EN 61010-1, EN 61010-2-201                                                                                   |
| Hazardous Location              | ATEX/IECEX Zone 2 with interface to Zone 0, cFMus C1, Div 2/Zone 2 with interface to C1, C2, C3 Div 1/Zone 0 |
| Marine certification            | ABS, BV, DNV, LR                                                                                             |
| Temperature, Operating          | 0 to +55 °C (+32 to +131 °F)                                                                                 |
| 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                 | EU RoHS, UAE RoHS, CN RoHS                                                                                   |
| WEEE compliance                 | DIRECTIVE/2012/19/EU                                                                                         |

| Compatibility |              |
|---------------|--------------|
| Use with MTU  | TU890, TU891 |
| Keying code   | AB           |

| Dimensions |                                                    |
|------------|----------------------------------------------------|
| Width      | 45 mm (1.77")                                      |
| Depth      | 102 mm (4.01"), 111 mm (4.37") including connector |
| Height     | 119 mm (4.7")                                      |
| Weight     | 0.2 kg (0.44 lbs.)                                 |



# Related products



TU890



TU891

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