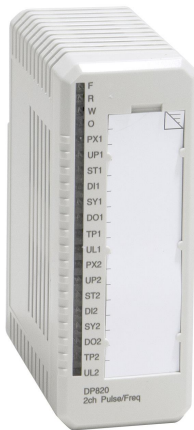


# DP820

## System 800xA hardware selector



DP820 is a two-channel pulse counting module for incremental pulse transmitters up to 1.5 MHz. Each channel contains counters and registers for position/length and speed/frequency measurement. Each channel provides three balanced inputs for connection of a pulse transmitter, one digital input and one digital output. Pulse transmitters with RS422, +5 V, +12 V, +24 V and 13 mA interfaces can be connected to DP820.

Use DP820 with Module Termination Units TU810V1, TU812V1, TU814V1, TU830V1, TU833.

### Features and benefits

- Two channels
- Interface for RS422, 5 V, 12 V, 24 V and 13 mA transducer signal levels
- Simultaneous pulse count and frequency measurement
- Pulse count (length/position) by accumulation in a bidirectional 29 bit counter
- Frequency (speed) measurement 0.25 Hz - 1.5 MHz

| General info         |                            |
|----------------------|----------------------------|
| Type                 | Pulse counter              |
| Signal specification | 24 V d.c. (12 - 32 V d.c.) |
| Article number       | 3BSE013228R1               |
| Number of channels   | 2                          |
| HART                 | No                         |
| SOE                  | No                         |
| Redundancy           | No                         |
| High integrity       | No                         |
| Intrinsic safety     | No                         |
| Mechanics            | S800                       |

| <b>Detailed data</b>                |   |
|-------------------------------------|---|
| Input impedance                     | 2.5 kΩ (DI-input)   |
| Isolation                           | Individually isolated, channel-to-channel and to circuit common   |
| Error                               | Max. frequency measurement error<br>Relative error Absolute error<br>(Temperature drift included): [320/(MEASTIME <sub>x</sub> in ms)] ppm<br>[(320/(MEASTIME <sub>x</sub> in ms) +100) ppm |
| Current limiting                    | Sensor power can be current limited by the MTU  |
| Maximum field cable length          | 200 meters (218 yards)  |
| Rated insulation voltage            | 50 V  |
| Dielectric test voltage             | 500 V a.c.  |
| Power dissipation                   | 2.5 W   |
| Current consumption +5 V Modulebus  | 120 mA  |
| Current consumption +24 V Modulebus | 0   |
| Current consumption +24 V external  | 0   |

| <b>Diagnostics</b>               |  |
|----------------------------------|--|
| Front LED's                      | P(pulse)X, UP (direction), ST(robe), DI, SY(nch), DO, TP (transm. power OK), all per channel |
| Supervision                      | Process voltage per channel  |
| Status indication of supervision | Module Error, Module Warning, Channel error  |

| <b>Environment and certification</b> |   |
|--------------------------------------|---|
| CE mark                              | Yes   |
| Electrical safety                    | IEC 61131-2, UL 508   |
| Hazardous Location                   | C1 Div 2 cULus, C1 Zone 2 cULus, ATEX Zone 2                                      |
| Marine certification                 | ABS, BV, DNV-GL, LR, RS, CCS  |
| Protection rating                    | IP20 according to IEC60529  |
| Corrosive atmosphere ISA-S71.04      | G3  |
| Climatic operating conditions        | 0 to +55 °C (Storage -40 to +70 °C), RH=5 to 95 % no condensation, IEC/EN 61131-2 |
| Pollution degree                     | Degree 2, IEC 60664-1   |
| 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)                                 |
| Max ambient temperature              | 55 °C (131 °F), for vertical mounting in compact MTU 40 °C (104 °F)               |
| RoHS compliance                      | EN 50581:2012   |
| WEEE compliance                      | DIRECTIVE/2012/19/EU  |

| <b>Compability</b> |                                     |
|--------------------|-------------------------------------|
| Use with MTU       | TU810, TU812, TU814, TU830 or TU833 |
| Keying code        | CB                                  |

### **Intrinsic Safety parameters**

| <b>Dimensions</b> |  |
|-------------------|--|
| Height            | 119 mm (4.7")                                      |
| Width             | 45 mm (1.77")                                      |
| Depth             | 102 mm (4.01"), 111 mm (4.37") including connector |
| Weight            | 0.15 kg (0.33 lbs.)                                |

# Related products



**TU814V1**



**TU810V1**



**TU833**



**TU812V1**



**TU830V1**

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