

# DP840

## ABB Ability™ System 800xA® hardware selector



The DP840 module consists of 8 identical independent channels. Each channel can be used for pulse count or frequency (speed) measurement, maximum 20 kHz. The inputs can also be read as DI signals. Each channel has a configurable input filter. The module perform self-diagnostics cyclically. With advanced diagnostics, for single or redundant applications. Interface for NAMUR, 12 V and 24 V. The input can be read as digital input signals.

Use DP840 with Module Termination Units TU810V1, TU812V1, TU814V1, TU830V1, TU833.

### Features and benefits

- 8 channels
- The modules can be used in both single and redundant applications
- Interface for NAMUR, 12 V and 24 V transducer signal levels
- Each channel can be configured for pulse count or frequency measurement
- The inputs can also be read as DI signals
- Pulse count by accumulation in a 16 bit counter
- Frequency (speed) measurement 0.5 Hz - 20 kHz
- Advanced on-board diagnostics

#### General info

Article number	3BSE028926R1
Type	Pulse counter
Signal specification	24 V d.c. (19.2 - 32 V d.c.)
Number of channels	8
HART	No
SOE	No
Redundancy	Yes
High integrity	No
Intrinsic safety	No
Mechanics	S800

<b>Detailed data</b>	
Isolation	Groupwise isolated from ground
Error	Max relative error (4): PRIT = 10 ms: 300 ppm PRIT = 20 ms: 150 ppm PRIT = 50 ms: 60 ppm PRIT = 100 ms: 30 ppm Max error in crystal oscillator: 120 ppm + 5 ppm/year Max absolute error = rel. error + oscillator error (PRIT = 10 ms, age < 16 year): 500 ppm (= 0.05%)
Current limiting	Built in current limited sensor power
Maximum field cable length	200 meters (218 yards)
Rated insulation voltage	50 V
Dielectric test voltage	500 V a.c.
Power dissipation	4 W
Current consumption +5 V Modulebus	115 mA
Current consumption +24 V external	NAMUR = 56 + 0.5 x external load [mA] 12 V = 89 + 0.7 x external load [mA] 24 V = 97 + external load [mA]





<b>Diagnostics</b>	
Front LED's	F(ault), R(un), W(arning), P(rietary), Channel 1-8 P(ulse) and F(ault)
Supervision	Process voltage Loop supervision
Status indication of supervision	Module Error, Module Warning, Channel error

<b>Environment and certification</b>	
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	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/2011/65/EU (EN 50581:2012)
WEEE compliance	DIRECTIVE/2012/19/EU

<b>Compatibility</b>	
Use with MTU	TU810, TU812, TU814, TU818, TU830, TU833, TU842, TU843, TU844, TU845, TU852, TU854
Keying code	CF

<b>Dimensions</b>	
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)

# Related products

	<b>TU810V1</b>		<b>TU812V1</b>
	<b>TU814V1</b>		<b>TU830V1</b>
	<b>TU833</b>		<b>TU842</b>
	<b>TU843</b>		<b>TU844</b>
	<b>TU845</b>		<b>TU852</b>
	<b>TU854</b>		

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