



Figure similar

***** spare part ***** SIMATIC DP, HART analog output, SM 332, 2 AO, 0/4
- 20 mA HART from HART revision 5.0, for ET200M with IM 153-2, 1 x 20-pole

Supply voltage	
Load voltage L+	
• Rated value (DC)	24 V
• Reverse polarity protection	Yes
Input current	
from load voltage L+ (without load), max.	150 mA
from backplane bus 5 V DC, max.	100 mA
Power loss	
Power loss, typ.	3.5 W
Analog outputs	
Number of analog outputs	2
Current output, no-load voltage, max.	19 V
Cycle time (all channels) max.	5 ms
Output ranges, current	
• 0 to 20 mA	Yes
• -20 mA to +20 mA	No
• 4 mA to 20 mA	Yes
Connection of actuators	
• for current output two-wire connection	Yes
Load impedance (in rated range of output)	
• with current outputs, max.	650 Ω
• with current outputs, inductive load, max.	7.5 mH
Destruction limits against externally applied voltages and currents	
• Voltages at the outputs towards MANA	max. 17 V / -0.5 V
• Current, max.	60 mA / -1 A
Cable length	
• shielded, max.	400 m
Analog value generation for the outputs	
Integration and conversion time/resolution per channel	
• Resolution with overrange (bit including sign), max.	12 bit; + sign
• Conversion time (per channel)	40 ms
Settling time	
• for resistive load	2.5 ms
• for capacitive load	4 ms
• for inductive load	2.5 ms
Errors/accuracies	
Operational error limit in overall temperature range	
• Current, relative to output range, (+/-)	0.55 %

Basic error limit (operational limit at 25 °C)			
• Current, relative to output range, (+/-)		0.15 %	
Interrupts/diagnostics/status information			
Diagnostics function		Yes; Parameterizable	
Substitute values connectable		Yes; Parameterizable	
Alarms			
• Diagnostic alarm		Yes; Parameterizable	
Diagnoses			
• Overrange		Yes	
• Wire-break		Yes; as of output value > 0.5 mA	
• HART communication active		Yes; green LED (H)	
Diagnostics indication LED			
• Group error SF (red)		Yes; red LED	
• Channel fault indicator F (red)		Yes; per channel	
Ex(i) characteristics			
Module for Ex(i) protection		Yes	
maximum values for connecting terminals for gas group IIC			
• Uo (no-load voltage), max.		19 V	
• Io (short-circuit current), max.		66 mA	
• Po (power output), max.		506 mW	
• Co (permissible external capacity), max.		230 nF	
• Lo (permissible external inductivity), max.		7.5 mH	
• Um (voltage at non-intrinsically safe connecting terminals), max.		60 V; DC	
Potential separation			
Potential separation analog outputs			
• between the channels		Yes	
• between the channels and backplane bus		Yes	
• Between the channels and load voltage L+		Yes	
Permissible potential difference			
between the outputs (UCM)		60 V DC/30 V AC permitted potential difference (Viso) of signals from hazardous areas	
Degree and class of protection			
IP degree of protection		IP20	
Standards, approvals, certificates			
Use in hazardous areas			
• ATEX marking		ATEX II 3 G (2) GD Ex nA [ib Gb] [ib IIIC Db] IIC T4 Gc	
• ATEX certificate		DEKRA 14 ATEX 0053X	
• FM marking		Class I, Division 2, Group A, B, C, D T4; Class I, Zone 2, Group IIC T4	
Ambient conditions			
Ambient temperature during operation			
• max.		60 °C	
Connection method			
required front connector		20-pin	
Dimensions			
Width		40 mm	
Height		125 mm	
Depth		120 mm	
Weights			
Weight, approx.		290 g	
Classifications			
		Version	Classification
	eClass	14	27-24-26-01
	eClass	12	27-24-26-01
	eClass	9.1	27-24-26-01
	eClass	9	27-24-26-01
	eClass	8	27-24-26-01
	eClass	7.1	27-24-26-01

eClass	6	27-24-26-01
ETIM	10	EC001596
ETIM	9	EC001596
ETIM	8	EC001596
ETIM	7	EC001596
IDEA	4	3562
UNSPSC	15	32-15-17-05

Approvals / Certificates

General Product Approval



[Miscellaneous](#)

[Manufacturer Declaration](#)

[China RoHS](#)



General Product Approval

For use in hazardous locations

[KC](#)



[FM](#)



For use in hazardous locations

Maritime application

[CCC-Ex](#)



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