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Data sheet 6ES7288-2QT16-0AA1



SIMATIC S7-200 SMART G2, slim design, digital output EM QT16, 16 DO, 24 V DC, transistor 0.75 A, total ≤ 10 A

General information	
Product type designation	EM QT16, DQ 16x24 V DC/0.75 A
Supply voltage	
Rated value (DC)	24 V
permissible range, lower limit (DC)	20.4 V
permissible range, upper limit (DC)	28.8 V
Input current	
from backplane bus 5 V DC, max.	80 mA; For 5 V DC from CPU module
Digital inputs	
Number of digital inputs	0
Digital outputs	
Number of digital outputs	16
● in groups of	1
Current-sinking	No
Current-sourcing	Yes
Short-circuit protection	Yes
Controlling a digital input	Yes
Switching capacity of the outputs	
● with resistive load, max.	0.75 A
● on lamp load, max.	5 W
Output voltage	
● Rated value (DC)	24 V
● for signal "0", max.	0.1 V
● for signal "1", min.	20 V DC
Output current	
● for signal "1" rated value	0.75 A
● for signal "1" permissible range, max.	0.75 A
● for signal "1" permissible range for 0 to 40 °C, max.	750 mA
● for signal "0" residual current, max.	10 µA
Output delay with resistive load	
● "0" to "1", max.	100 µs
● "1" to "0", max.	100 µs
Cable length	
● shielded, max.	500 m
● unshielded, max.	150 m
Interrupts/diagnostics/status information	
Diagnostics indication LED	
● for status of the outputs	Yes
Potential separation	

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Potential separation digital outputs	
● between the channels	Yes; isolator
Isolation	
Isolation tested with	500 V AC for 1 minute
EMC	
Interference immunity against discharge of static electricity	
● Interference immunity against discharge of static electricity acc. to IEC 61000-4-2	Yes; ±4 kV contact discharge (to IEC 801-2/IEC 1000-4-2; ESD), ±8 kV air discharge (to IEC 801-2/IEC 1000-4-2; ESD)
— Test voltage at air discharge	8 kV
— Test voltage at contact discharge	4 kV
Interference immunity against high-frequency electromagnetic fields	
● Interference immunity against high-frequency radiation acc. to IEC 61000-4-3	Yes; 10 V/m, 80 to 1 000 MHz (to IEC 61000-4-3); 10 V/m, 900 MHz, 1.89 GHz, 50% ED (to IEC 61000-4-3)
— Frequency range of the RF radiation	80 to 1000 MHz, 10 V/m, 1.4 to 2.0 GHz, 3 V/m, 2.0 to 2.7 GHz, 1 V/m
Interference immunity to cable-borne interference	
● Interference immunity on supply lines acc. to IEC 61000-4-4	Yes; ±2 kV acc. to IEC 61000-4-4, burst; surge measurements with additional protective elements
● Interference immunity on signal cables acc. to IEC 61000-4-4	Yes; ±2 kV acc. to IEC 61000-4-4, Burst
Interference immunity against voltage surge	
● Interference immunity on supply lines acc. to IEC 61000-4-5	Yes; ±0.5 kV (acc. to IEC 61000-4-5; 2014; surge line to line), ±1 kV (acc. to IEC 61000-4-5; 2014; surge line to earth), no external protective circuit required
● asymmetric interference	±0.5 kV (acc.to IEC5100-4-5;2014; surge line to line), ±1 kV (acc.to IEC 61000-4-5; 2014; surge line to earth) no external protective circuit required
Interference immunity against conducted variable disturbance induced by high-frequency fields	
● Interference immunity against high frequency current feed acc. to IEC 61000-4-6	Yes; 10 V, 150 kHz to 80 MHz (to IEC 61000-4-6)
● Interference immunity against high-frequency radiation acc. to IEC 61000-4-6	Yes; 10 V/m, with 80% amplitude modulation at 1 kHz
— Test voltage at 80% amplitude modulation with 1kHz in the range 9 kHz to 80 MHz	10 V
Emission of radio interference acc. to EN 55 011	
● Emission of radio interference	Interference emission to EN 50081-2, testing to EN 55011, Class A, Group 1
● Limit class A, for use in industrial areas	Yes; EN 61000-6-4, interference emission: Intended for use in industrial areas.
Degree and class of protection	
IP degree of protection	IP20
Standards, approvals, certificates	
CE mark	Yes; CE marking / EC Declaration of Conformity
Ambient conditions	
Free fall	
● Fall height, max.	0.3 m
Ambient temperature during operation	
● min.	-20 °C
● max.	60 °C
● horizontal installation, min.	-20 °C
● horizontal installation, max.	60 °C
● vertical installation, min.	-20 °C
● vertical installation, max.	50 °C
Ambient temperature during storage/transportation	
● min.	-40 °C
● max.	70 °C
Relative humidity	
● Operation at 25 °C without condensation, max.	95 %
Dimensions	
Width	15 mm
Height	117.2 mm
Depth	74.5 mm
Weights	
Weight, approx.	79 g
Classifications	

		Version	Classification

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eClass	16	27-24-22-04
eClass	14	27-24-22-04
eClass	12	27-24-22-04
eClass	9.1	27-24-22-04
eClass	9	27-24-22-04
eClass	8	27-24-22-04
eClass	7.1	27-24-22-04
eClass	6	27-24-22-04
ETIM	10	EC001419
ETIM	9	EC001419
ETIM	8	EC001419
ETIM	7	EC001419

Approvals / Certificates

General Product Approval

China RoHS

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