SIEMENS

Data sheet 6ES7647-0BA00-1YA2

SIMATIC IOT2050; 2x Gbit Ethernet RJ45; Display port; 2x USB2.0; 16 GB eMMC; SD card slot; 24 V DC industrial power supply

General information	
Product type designation	IOT2050
Installation type/mounting	
Design	IoT Gateway, built-in unit
Supply voltage	
Type of supply voltage	12/24 V DC
Mains buffering	
● Mains/voltage failure stored energy time	5 ms
Processor	
Processor type	ARM TI AM6548 HS
Graphic	
Graphics controller	Integrated
Drives	
Slot for drives	1x microSD card slot
Memory	
Type of memory	DDR4
Main memory	2 GB RAM
Capacity of main memory, max.	2 Gbyte
Hardware configuration	
Slots	
● free slots	1x Arduino, 1x mPCIe
Digital inputs	
Number of digital inputs	20
Input voltage	
● Type of input voltage	DC
Digital outputs	
Number of digital outputs	20
Output voltage	
● Type of output voltage	DC
● permissible voltage at output, min.	3.3 V
● permissible voltage at output, max.	5 V
Analog inputs	
Number of analog inputs	6
Input ranges	
● Voltage	Yes; 0 ... 5 V
Interfaces	
PROFIBUS/MPI	can be implemented with plug-in card
Number of industrial Ethernet interfaces	2
Number of PROFINET interfaces	2
USB port	2x USB 2.0

Connection for keyboard/mouse	USB
serial interface	1x COM (1x RS 232 / 422 / 485)
Video interfaces	
● Graphics interface	1x DisplayPort
Industrial Ethernet	
● Industrial Ethernet interface	2x Ethernet (RJ45)
— 100 Mbps	Yes
— 1000 Mbps	Yes
Integrated Functions	
Monitoring functions	
● Temperature monitoring	Yes
● Watchdog	Yes
● Status LEDs	Yes
EMC	
Interference immunity against discharge of static electricity	
● Interference immunity against discharge of static electricity	±4 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2
Interference immunity against high-frequency electromagnetic fields	
● Interference immunity against high frequency radiation	10 V/m for 80 ... 1 000 MHz, 80 % AM according to IEC 61000-4-3; 3 V/m for 1.4 ... 6 GHz, 80 % AM according to IEC 61000-4-3
Interference immunity to cable-borne interference	
● Interference immunity on supply cables	±2 kV (according to IEC 61000-4-4, burst); ±1 kV (according to IEC 61000-4-5, surge pulse/line to line); ±2 kV (according to IEC 61000-4-5, surge pulse/line to ground)
● Interference immunity on signal cables >30m	±2 kV acc. to IEC 61000-4-5, surge, length > 30 m
● Interference immunity on signal cables < 30m	±1 kV acc. to IEC 61000-4-4, Burst
Interference immunity against voltage surge	
● asymmetric interference	±2 kV acc. to IEC 61000-4-5, surge asymmetric
● symmetric interference	±1 kV acc. to IEC 61000-4-5, surge symmetric
Degree and class of protection	
IP degree of protection	IP20
IP (all-round)	IP20
Standards, approvals, certificates	
CE mark	Yes
UL approval	Yes
cULus	Yes
RCM (formerly C-TICK)	Yes
KC approval	Yes
EAC (formerly Gost-R)	Yes
FCC	Yes
EMC	CE, EN 61000-6-4:2007 +A1:2011, EN 61000-6-2:2005, CE, EN IEC 61000-6-4:2019, EN IEC 61000-6-2:2019
Ambient conditions	
Ambient temperature during storage/transportation	
● min.	-20 °C
● max.	70 °C
Altitude during operation relating to sea level	
● Installation altitude above sea level, max.	2 000 m
Relative humidity	
● Relative humidity	5 ... 85 % at 30 °C, no condensation
● Operation, max.	85 %
Vibrations	
● Vibration resistance during operation acc. to IEC 60068-2-6	tested according to IEC 60068-2-6: 10 cycles; 5 to 8.4 Hz: deflection 3.5 mm; 8.4 to 200 Hz: acceleration 9.8 m/s²
Shock testing	
● Shock load during operation	Tested according to IEC 60068-2-27: 150 m/s², 11 ms
Operating systems	
pre-installed operating system	SIMATIC Industrial OS
without operating system	No
Mechanics/material	
Enclosure material (front)	plastic
● Plastic	Yes

● Aluminum	Yes
● Stainless steel	Yes
● Glass	No
Dimensions	
Width	37 mm
Height	142 mm
Depth	100 mm

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