6ES7647-0BA00-0YA2

Data sheet



SIMATIC IOT2050, 2x Gbit Ethernet RJ45; Display port; 2x USB2.0, 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 AM6528 GP
Graphic	
Graphics controller	Integrated
Drives	
Slot for drives	1x microSD card slot
Memory	
Type of memory	DDR4
Main memory	1 GB RAM
Capacity of main memory, max.	1 Gbyte
Hardware configuration	
Slots	
• free slots	1x Arduino, 1x mPCle
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
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

Findustrial Ethernet interfaces		
	Industrial Ethernet	0.50
Interference immunity against discharge of static electricity Ves	· ·	
Temperature monitoring		Yes
* Camparature monitoring		
Available		
Salaus LEDS	·	
Interference immunity against discharge of static electricity Interference immunity against high-frequency relations ±4 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2 10 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2 10 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-3; ±8 kV acc. to IEC 61000-4-3; ±8 kV acc. to IEC 61000-4-3; ±8 kV acc. to IEC 61000-4-4; ±8 kV acc. to IEC 61000-4-4; ±8 kV acc. to IEC 61000-4-5; ±8 kV acc. to IEC 61000-4-5; ±8 kV according to IEC 61000-4-5; ±8 kV acc. to IEC 61000-4-5; ±8 kV acc	•	
Interference immunity against discharge of static electricity Interference immunity against high-frequency electromagnetic fields Interference immunity against high-frequency electromagnetic fields Interference immunity against high-frequency redation Interference immunity to cable-borne interference Interference immunity to cable-borne interference Interference immunity on supply cables Interference immunity on supply cables Interference immunity on supply cables Interference immunity on signal cables >30m Interference immunity on signal cables		Yes
Heleference immunity against high-frequency electromagnetic floots electricity 44 kV contact discharge acc. to IEC 61000-42; 8 kV air discharge acc. to IEC electronic immunity against high-frequency electromagnetic floots 10 V/m for 80 1 000 MHz, 80 % AM according to IEC 81000-4-3; 3 V/m for 1 4 6 GHz, 80 % AM according to IEC 81000-4-3; 3 V/m for 1 4.		
Interference immunity against high-frequency electromagnetic fields	, , , , , , , , , , , , , , , , , , , ,	
Interference immunity against high-frequency relation 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; 3 V/m for 1 4 6 GHz, 80 % AM according to IEC 61000-4-3; 3 V/m for 1 4 6 GHz, 80 % AM according to IEC 61000-4-3; 3 V/m for 1 4 6 GHz, 80 % AM according to IEC 61000-4-3; 3 V/m for 1 4 6 GHz, 80 % AM according to IEC 61000-4-3; 3 V/m for 1 6 GHz, 80 % AM according to IEC 61000-4-5; 3 V/m for 1 6 GHz, 80		
Interference immunity against high frequency radiation 1.4 8 G.H.z, 80 % AM according to IEC 61000-4-3; 3 V/m for 1.4 8 G.H.z, 80 % AM according to IEC 61000-4-3; 3 V/m for 1.4 8 G.H.z, 80 % AM according to IEC 61000-4-3; 3 V/m for 1.4 8 G.H.z, 80 % AM according to IEC 61000-4-3; 3 V/m for 1.4 8 G.H.z, 80 % AM according to IEC 61000-4-3; 3 V/m for 1.4 8 G.H.z, 80 % AM according to IEC 61000-4-3; 3 V/m for 1.4 8 G.H.z, 80 % AM according to IEC 61000-4-5; surge pulseline to Ime); 42 kV acc to IEC 61000-4-5; surge pulseline to Ime); 42 kV acc to IEC 61000-4-5; surge pulseline to IEC 61000-4-5; surge asymmetric interference 42 kV acc to IEC 61000-4-5; surge asymmetric 42 kV acc to IEC 61000-4-2; surge asymmetric 42 kV acc to IEC 6100		
Interference immunity on supply cables	, , , , , ,	10 V/m for 80 1 000 MHz, 80 % AM according to IEC 61000-4-3; 3 V/m for
surge pulse/line fo 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 ±1 kV acc. to IEC 61000-4-5, surge, length >30 m ±1 kV acc. to IEC 61000-4-5, surge asymmetric memority against voltage surge • symmetric interference ±2 kV acc. to IEC 61000-4-5, surge asymmetric esymmetric interference ±2 kV acc. to IEC 61000-4-5, surge asymmetric esymmetric interference ±2 kV acc. to IEC 61000-4-5, surge asymmetric esymmetric protection IP degree of protection IP 20 IP (all-round) IP 20 IP 20 IP (all-round) IP 20	Interference immunity to cable-borne interference	
• Interference immunity on signal cables < 30m	Interference immunity on supply cables	surge pulse/line to line); ±2 kV (according to IEC 61000-4-5, surge pulse/line to
Asymmetric interference	 Interference immunity on signal cables >30m 	±2 kV acc. to IEC 61000-4-5, surge, length > 30 m
• asymmetric interference	• Interference immunity on signal cables < 30m	±1 kV acc. to IEC 61000-4-4, Burst
Pegree and class of protection IP20 IP degree of protection IP20 IP (all-round) IP20 Standards, approvals, certificates Ves UL approval Yes ULUs 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 61000-6-2:2019 Ambient conditions Ves Ambient temperature during storage/transportation Ves • min. -20 °C • max. 70 °C Altitude during operation relating to sea level • 10 stallation altitude above sea level, max. 2000 m • Relative humidity 5 85 % at 30 °C, no condensation 85 % • Vibration resistance during operation acc. to IEC 6008e. 2 .8 * 45 0 °C, no condensation 85 % • Vibration resistance during operation acc. to IEC 6008e. 2 .8 * 45 0 °C, no condensation 85 % • Vibration resistance during operation acc. to IEC 6008e. 2 .8 * 45 0 °C, no condensation 85 % • Vibration resistance during operation acc. to IEC 6008e. 2 .8 *	Interference immunity against voltage surge	
P degree of protection IP 20	 asymmetric interference 	±2 kV acc. to IEC 61000-4-5, surge asymmetric
P degree of protection IP 20	• symmetric interference	±1 kV acc. to IEC 61000-4-5, surge symmetric
IP (all-round)	Degree and class of protection	
Standards	IP degree of protection	IP20
CE mark	IP (all-round)	IP20
UL approval Yes	Standards, approvals, certificates	
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 Allitude during operation relating to sea level • Installation altitude above sea level, max. 2 000 m Relative humidity 5 85 % at 30 °C, no condensation • Operation, max. • 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; 2.6 4 to 200 Hz: acceleration 9.8 m/s² staceleration 9.8 m/s² Shock load during operation Tested according to IEC 60068-2-27: 150 m/s², 11 ms Operating system No without operating system No Mcchanics/material Yes • Aluminum Yes • Stainless steel Yes • Glass No	CE mark	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 5 85 % at 30 °C, no condensation • Operation, max. • 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; 2-6 Shock testing tested according to IEC 60068-2-6: 10 cycles; 5 to 8.4 Hz: deflection 3.5 mm; 2-6 Shock load during operation Tested according to IEC 60068-2-7: 150 m/s², 11 ms Operating system No without operating system No Mechanics/material Yes Enclosure material (front) plastic • Plastic Yes • Aluminum Yes • Glass No	UL approval	Yes
Yes	cULus	Yes
EAC (formerly Gost-R) 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. • max. 70 °C Altitude during operation relating to sea level • Installation altitude above sea level, max. 2 000 m Relative humidity • Relative humidity • Relative humidity • Operation, max. Vibrations • Vibration resistance during operation acc. to IEC 60068-2-6 2-6 Shock lesting • Shock load during operation • Shock load during operation • 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 lesting • Shock load during operation • Tested according to IEC 60068-2-27: 150 m/s², 11 ms Operating systems pre-installed operating system No without operating system No without operating system Yes Mechanics/material Enclosure material (front) • Plastic • Aluminum • Yes • Stainless steel • Glass No	RCM (formerly C-TICK)	Yes
FCC Yes EMC CE, EN 61000-6-4:2007 +A1:2011, EN 61000-6-2:2005, CE, 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 5 85 % at 30 °C, no condensation ● Operation, max. 85 % Vibrations 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 tested according to IEC 60068-2-2: 150 m/s², 11 ms Operating systems Tested according to IEC 60068-2-27: 150 m/s², 11 ms Operating system No without operating system No without operating system Yes Mechanics/material Yes ● Aluminum Yes ● Stainless steel Yes ● Glass No	KC approval	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. • max. 70 °C Altitude during operation relating to sea level • Installation altitude above sea level, max. 2 000 m Relative humidity • Relative humidity • Operation, max. 5 5 85 % at 30 °C, no condensation • Vibrations • Vibration resistance during operation acc. to IEC 60068-2-6 2-6 Shock testing • Shock load during operation • Tested according to IEC 60068-2-6: 10 cycles; 5 to 8.4 Hz: deflection 3.5 mm; 2-6 Shock testing • Shock load during operation Tested according to IEC 60068-2-7: 150 m/s², 11 ms Operating systems pre-installed operating system No without operating system Pre-installed operating system No without operating system Pre-installed operating system No without operating system Pre-installed operating system Solution of the storage of the s	EAC (formerly Gost-R)	Yes
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2-6 Shock testing Shock load during operation Tested according to IEC 60068-2-27: 150 m/s², 11 ms Operating systems pre-installed operating system No without operating system Yes Mechanics/material Enclosure material (front) Plastic Plastic Aluminum Stainless steel Glass No		tacted according to IEC 60069 2 6: 10 avalors 5 to 9.4 Hz; deflection 2.5 minus
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without operating system Mechanics/material Enclosure material (front) Plastic Plastic Aluminum Stainless steel Glass Yes No		No
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Enclosure material (front) Plastic Aluminum Stainless steel Glass Plastic Yes Yes Yes No		
 Plastic Aluminum Stainless steel Glass No 		nlastic
 Aluminum Stainless steel Glass No 		·
Stainless steelGlassNo		
• Glass No		
	Dimensions	

Width	37 mm
Height	142 mm
Depth	100 mm

last modified:

8/10/2022