

MindConnect IoT2040

Product Sheet and Specific Terms



MindConnect IoT2040 is a device for transferring data and allows connectivity to MindSphere. Different protocols are supported in order to collect data. The device supports transmission of data through a secure internet connection to MindSphere to enable cloud-based applications and services. MindConnect IoT2040 can only be used in conjunction with MindSphere.

Functions

Field protocol – S7	Siemens S7 Put/Get Access (for all S7 PLCs as non-symbolic addressing)
Field protocol – OPC UA	OPC UA Client (Data Access)
Field protocol – Modbus	Connections to Modbus devices via TCP/RTU
Field protocol – EtherNet/IP	Connections to EtherNet/IP devices
Configuration of data collection	With Asset Configuration tool in MindSphere
Data buffering	Up to 500 MB buffering space for collected data
Proxy Support	Yes
DHCP Support	Yes
Security	Connection outbound via HTTPS on port 443 to MindSphere only; no incoming connection accepted; SSL/TLS encryption of data in transit to MindSphere

Installation Type/Mounting

Mounting	DIN rail, wall mounting, portrait mounting
Design	IoT Gateway, Built-in unit

Supply Voltage

Type of supply voltage	24 V DC
Mains buffering	
Mains/voltage failure stored energy time	5 ms

Processor

Processor type	Intel Quark X1020
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Drives

MicroSD Card	8 GB
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Memory

Type of memory	DDR3-SDRAM
Main memory	1 GB

Hardware Configuration

Slots

Free slots	1x Arduino (available only on conjunction with MindSphere) 1x mPCIe (available only in conjunction with MindSphere)
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Interfaces

USB port	1x USB 2.0
Serial interface	2x COM ports (RS 232, RS 485) (available only in conjunction with MindSphere)

Industrial Ethernet

Industrial Ethernet interface	2x 10/100 Ethernet RJ45
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Monitoring Functions

Watchdog	Yes
Status LEDs	Yes
Fan	No

EMC	
Interference immunity against discharge of static electricity	
Interference immunity against discharge of static electricity	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2
Interference immunity to cable-borne interference	
Interferences immunity on supply cables	±2 kV acc. to IEC 61000-4-4, burst; ±1 kV acc. to IEC 61000-4-5, surge symmetric; ±2 kV acc. to IEC 61000-4-5, surge asymmetric
Interference immunity on signal cables > 30 m	±2 kV acc. to IEC 61000-4-5, surge, length > 30 m
Interference immunity on signal cables < 30 m	±2 kV acc. to IEC 61000-4-4, burst; length < 30 m
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
Interference immunity to magnetic fields	
Interference immunity to magnetic fields at 50 Hz	100 A/m; to IEC 61000-4-8
Emission of conducted and non-conducted interference	
Interference emission via line/AC current cables	EN 61000-6-4:2007 +A1:2011

Degree and Class of Protection	
IP (at the front)	IP20

Standards, Approvals, Certificates	
Approval	CE (industry), UL, cULus
CE mark	Yes
UL approval	Yes
cULus	Yes
KC approval	Yes
EMC	CE, EN 61000-6-4:2007 +A1:2011, EN 61000-6-2:2005, EN 61000-6-3:2007 +A1:2011, EN 61000-6-1:2007

Ambient Conditions

Ambient temperature during operation	
Ambient temperature during operation	0 °C up to 50 °C
Minimum	0 °C
Maximum	50 °C
Relative humidity	
Relative humidity	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5 % to 85 % at 30 °C (no condensation), storage / transport: 5 % to 95 % at 25 / 55 °C (no condensation)
Vibrations	
Vibration load in operation	Tested according to IEC 60068-2-6: 5 Hz to 9 Hz: 3.5 mm; 9 Hz to 200 Hz: 9.8 m/s ²
Shock testing	
Shock load during operation	Tested according to IEC 60068-2-27: 150 m/s ² , 11 ms

Software

MindConnect Software	Pre-installed MindConnect IoT2040 Software
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Dimensions

Width	144 mm
Height	90 mm
Depth	53 mm

Support

Contacting MindSphere Support

For all infrastructure providers

You may contact the MindSphere Support organization as primary point of contact for support.

- An incident request ID is required to process your request. To receive such ID, an initial incident request has to be created by using the link to a support/ support form or tool provided on your MindSphere Launchpad. The incident request ID will then be sent via email or chat-software.
- After receipt of the incident request ID, you will be contacted via email, or phone or chat-software by MindSphere Support. You may also contact the regional 'Global Technical Access Center' (GTAC) organization (except in People's Republic of China). The GTAC country website is available via the following web link: www.siemens.com/gtac.

Scope of MindSphere Support

Infrastructure provider	Support language	Operating hours & Support centers
Alibaba Cloud	Chinese On request in English	Monday through Friday 9:00 am to 6:00 pm CST (People's Republic of China, Chengdu) – excluding national and local holidays.
Amazon Web Services	English	Monday through Friday 8:00 am to 5:00 pm CET (Germany, Nuremberg) and CST (USA, Maryland Heights) and 9:00 am to 6:00 pm IST (India, Delhi) – excluding national and local holidays.
Microsoft Azure		

MindSphere Support is available to you remotely for up to one hour per support case. You have to ensure remote access to your local networks for e.g. remote diagnoses.

Security Information

General

In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial security concept.