

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
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Minimum	0 °C
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Maximum	50 °C
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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)
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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
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Shock testing

Shock load during operation	Tested according to IEC 60068-2-27: 150 m/s ² , 11 ms
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Software

MindConnect Software	Pre-installed MindConnect IoT2040 Software
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Dimensions

Width	144 mm
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Height	90 mm
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Depth	53 mm
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Support

Contacting MindSphere Support

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

- A support case number is required to process your request. To receive such ID, you will have to create a support case request (sometimes also referred to as 'incident request') via the Siemens Support Center portal ("**Support Center**") by using the link provided on your MindSphere Launchpad or by accessing the Support Center directly at <https://support.sw.siemens.com>. The support case number will then be sent via email and can be found under 'Support Cases' or 'Case History' in the Support Center.
- After receipt of the support case number, your support case will be updated via the Support Center. You can also choose to receive email updates by updating your Support Center profile accordingly. If required, we will schedule follow-up calls for issue review and troubleshooting.

Scope of MindSphere Support

Area of Data Center Location	Support language	Business operating hours & Support centers
European Union	English	Monday through Friday – excluding national and local holidays. EMEA: 8:00 am to 5:00 pm CET Americas: 8:00am to 5pm CST APAC: 9:00 am to 6:00 pm IST
People's Republic of China	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.

To receive support services hereunder, you shall reasonably cooperate with MindSphere Support to resolve support cases, and shall have adequate technical expertise and knowledge of their configuration of the MindSphere Services to provide relevant information to enable MindSphere Support to reproduce, troubleshoot and resolve the experienced error such as, by way of an example, instance name, username, form name and screenshot. You shall also 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.
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