

# MindConnect IoT2040

## Product Sheet



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

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

<b>Degree and Class of Protection</b>	
IP (at the front)	IP20

<b>Standards, Approvals, Certificates</b>	
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 <sup>2</sup>
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### Shock testing

Shock load during operation	Tested according to IEC 60068-2-27: 150 m/s <sup>2</sup> , 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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## 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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