

MindConnect IoT 2040

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 (for S7-3xx / S7-4xx / ET-200s SPS)
Field protocol – OPC UA	Part 8 of the OPC UA specification (Data Access)
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
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Mains buffering

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| <ul style="list-style-type: none">• Mains/voltage failure stored energy time | 5 ms |
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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
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Main memory	1 GB
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Hardware Configuration

Slots

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| <ul style="list-style-type: none">• Free slots | 1x Arduino (disabled), 1x mPCIe (disabled) |
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Interfaces

USB port	1x USB 2.0
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Serial interface	2x COM ports (RS 232, RS 485) (Disabled)
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Industrial Ethernet

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| <ul style="list-style-type: none">• Industrial Ethernet interface | 2x 10/100 Ethernet RJ45 |
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Monitoring Functions

Watchdog	Yes
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Status LEDs	Yes
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Fan	No
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EMC

Interference immunity against discharge of static electricity

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|---|---|
| • 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

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|---|---|
| • Interference 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

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|---------------------------|---|
| • 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

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| • Interference immunity to magnetic fields at 50 Hz | 100 A/m; to IEC 61000-4-8 |
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Emission of conducted and non-conducted interference

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| • Interference emission via line/AC current cables | EN 61000-6-4:2007 +A1:2011 |
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Degree and Class of Protection

IP (at the front)	IP20
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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

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| • Ambient temperature during operation | 0 °C up to 50 °C |
| • Minimum | 0 °C |
| • Maximum | 50 °C |

Relative humidity

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| • 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

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| • 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

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| • 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
Height	90 mm
Depth	53 mm

Support

Contacting MindSphere Support	<p>You may contact the MindSphere Support organization as primary point of contact for support.</p> <ul style="list-style-type: none">• 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 support form or tool provided on your MindSphere Launchpad. The incident request ID will then be sent via email• After receipt of the incident request ID, you will be contacted via email or phone by MindSphere Support. You may also contact the regional 'Global Technical Access Center' (GTAC) organization. The GTAC country website is available via the following web link: www.siemens.com/gtac
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Scope of MindSphere Support

MindSphere Support hours of operation are Monday through Friday, 8:00am to 5:00pm CET (Germany, Nuremberg) and CST (USA, Maryland Heights) – excluding national and local holidays. Outside of the 8:00am to 5:00pm local time window, a request can also be created via QTAC.

MindSphere Support is available in English and German.

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.