MindConnect Nano
Product Sheet and Specific Terms

MindConnect Nano 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 Nano 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	20 ms

Processor

Processor type	Intel Celeron N2807

Drives

Hard disk	CFast 4 GB

Memory

Type of memory	DDR3L
Main memory	2 GB

Interfaces

USB port	1x USB 2.0
PCIe slot	1x PCIe x1 (available only in conjunction with MindSphere)
Serial interface	1x COM (available only in conjunction with MindSphere)
Video interfaces	
Graphics interface	1x DisplayPort (available only in conjunction with MindSphere)
Industrial Ethernet	
Industrial Ethernet interface	2x 1000 Mbit RJ45

Monitoring Functions

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, length > 30 m
Interference immunity on signal cables < 30 m	±1 kV acc. to IEC 61000-4-4, burst; length < 3 m; ±2 kV acc. to IEC 61000-4-4, burst; length > 3 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 against high-frequency electromagnetic fields	
Interference immunity against high-frequency radiation	10 V/m for 80 – 1 000 MHz and 1.4 – 2 GHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2 – 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz – 80 MHz, 80% AM acc. to IEC 61000-4-6
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 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A

Degree and Class of Protection

IP (at the front)	IP40
IP (rear)	IP40

Standards, Approvals, Certificates

CE mark	Yes
UL approval	Yes
UL 508	Yes
cULus	Yes
RCM (formerly C-TICK)	Yes
KC approval	Yes
EMC	CE, EN 61000-6-4:2007, EN 61000-6-2:2005
EN 61000-6-2	Yes
Dust protection	Protection against foreign bodies > 1 mm
FCC	Yes

Ambient Conditions

Ambient temperature during operation	
Ambient temperature during operation	0 °C up to 60 °C
Ambient temperature during storage/transportation	
min.	−20 °C
max.	60 °C
Relative humidity	
Relative humidity	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5% to 80% at 25 °C (no condensation), storage: 5% to 95% at 25 °C (no condensation)
Vibrations	
Vibration load in operation	Tested to DIN IEC 60068-2-6: 10 Hz to 58 Hz: 0.075 mm, 58 Hz to 200 Hz: 9.8 m/s² (1 g)
Shock testing	
Shock load during operation	Tested according to IEC 60068-2-27: 150 m/s², 11 ms

Dimensions

Width	191 mm
Height	100 mm
Depth	60 mm

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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