

Quick Startup Guide

dataFEED edgeGate



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1 Introduction



Read this manual before starting

Softing Industrial Automation assumes no liability whatsoever under the existing warranty obligations for damages incurred due to improper use, connection, implementation or operation of the product.

1.1 Intended use

The dataFEED edgeGate is a gateway connecting industrial networks to IT applications running on-premises or in the cloud. It connects OPC UA Servers and PLCs with applications via OPC UA or the MQTT protocol. In addition, the gateway offers deep integration into selected IoT hubs. With its OPC UA standard compliance, its simple configuration and its security features, the gateway makes it easy to start with small solutions and grow them over time.



Note

Faultless and safe operation of the product requires proper transport, proper storage and installation, and expert operation and maintenance in accordance with the manual.



Note

If the notes stated in this document are not observed or in case of inappropriate handling of the device, our liability is waived. In addition, the warranty on devices and spare parts does no longer apply.

For information about safety aspects refer to [Safety precautions](#).

1.2 Scope of delivery

dataFEED edgeGate comprises the following parts:

- dataFEED edgeGate device (order number GAA-YY-145122)
- Quick Startup Guide (this document)

1.3 Conventions

The following conventions are used throughout Softing customer documentation:

Keys, buttons, menu items, commands and other elements involving user interaction are set in bold font and menu sequences are separated by an arrow

Open **Start** → **Control Panel** → **Programs**

Buttons from the user interface are enclosed in brackets and set to bold typeface

Press **[Start]** to start the application

Coding samples, file extracts and screen output is set in Courier font type

MaxDlsapAddressSupported=23

File names and directories are written in italic

Device description files are located in *C:\<productname>\delivery\software\Device Description files*



CAUTION

CAUTION indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.



Note

This symbol is used to call attention to notable information that should be followed during installation, use, or servicing of this device.



Hint

This symbol is used when providing you with helpful user hints.

1.4 Safety precautions



CAUTION

This product contains a lithium backup battery. The lithium content is less than 1 g. The battery has been successfully tested by the manufacturer in accordance with the "Manual of Tests and Criteria" of the United Nations (UN), Part III: Classification procedures, test methods and criteria, sub-section 38.3.

If the product is handled properly, this battery does not need to be replaced during the lifetime of the product. Therefore, opening the product is unnecessary and not permitted. The product must only be operated within the specified temperature range. Do not expose to heat above this temperature range and keep away from open fire. Store in a dry place. Improper handling of lithium batteries can cause the batteries to ignite or explode and pose a burn hazard to users.



CAUTION

During operation, the device's surface will be heated up. Avoid direct contact. When servicing, turn off the power supply and wait until surface has cooled down.



Note

Do not open the housing of the dataFEED edgeGate. It does not contain any parts that need to be maintained or repaired. In the event of a fault or defect, remove the device and return it to the vendor. Opening the device will void the warranty!



Regulations, standards and directives

This manual does not supersede the relevant national regulations, standards and directives. These must be observed and have to be applied according to the national conditions!

2 Hardware installation

2.1 Mounting and dismounting



Note

Make sure the dataFEED edgeGate is mounted in a manner that the power supply disconnecting device or interrupt facility can always be reached easily.



Note

Depending on the installation position, the maximum ambient operating temperature may differ. Refer to [Technical Data](#) for detailed information.

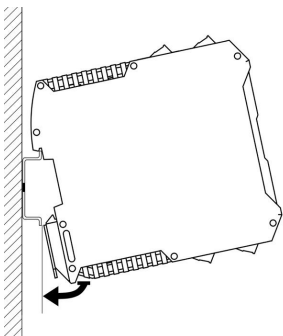


Installation and inspection

Installation and inspection tasks are to be carried out by qualified personnel only, i.e. personnel qualified according to TRBS 1203 or similar! The definition of terms can be found in IEC 60079-17.

Mounting

1. For mounting the dataFEED edgeGate on a DIN rail (35 mm), attach the two upper notches to the rail.
2. Press the device down towards the rail until it locks into place.

**Note**

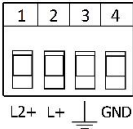

Do not put stress on the system by bending or torsion.

Dismounting

To dismount the dataFEED edgeGate from the DIN rail, slide a screw driver horizontally underneath the housing into the locking bar, slide the bar downwards – without tilting the screw driver - and fold the device upwards.

2.2 Connecting the power supply

The supply voltage (18 VDC 32 VDC) is connected by a 4-pole terminal block. The power supply is connected to the plug connector via flexible wires with a cross section of 0.75 to 1.5 mm². The ground connection wire must have a cross section of 1.5 mm².

	Pin	Signal	Description
	1	L2+	Redundant positive supply voltage
	2	L+	Positive supply voltage
	3		Functional Earth
	4	GND	Ground



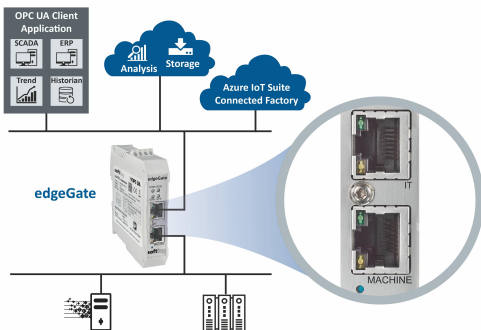
CAUTION

The Functional Earth (FE) connection of the device has to be connected at low inductance with the Protective Earth (PE) of the system.

2.3 Connecting to the network

The dataFEED edgeGate is equipped with two 10/100 Base-T Ethernet interface receptacle (RJ45). The ports correspond to the IEEE 802.3:

- **IT** for connecting to the it network (the upper part in the diagram)
- **MACHINE** for connecting to the machine network



Note

Both network connections (ports) have their own network segment. Therefore make sure that the IP addresses used are different for each segment. Example:

Subnet mask:	IP address 1:	IP address 2:
255.255.255.0	192.168. <u>1</u> .1	192.168. <u>2</u> .1

Using a single common network

If there is only one (logical) network, it is recommended to connect the dataFEED edgeGate only via the Ethernet interface of the IT side with the network. In this case, the Ethernet interface of the machine side should be disabled by setting the IP address to 0.0.0.0 and the subnet mask to 0.0.0.0.

2.4 Powering up the device

Turn on the power supply. The boot process takes a few seconds. For indication of proper operation of a dataFEED edgeGate refer to [Status indicators - LEDs](#).

2.5 Inserting an SD card

On the bottom of the device you find a slot for a micro SD card. You can save your gateway configuration data to a storage card and reload it from here in case your device settings have been accidentally corrupted.



Note

The storage capacity of the micro SD card may not exceed 32GB.



1. Remove the card slot cover on the bottom of the device.
2. Insert the SD card carefully into the slot until the card clicks into place.

3. Place the cover back on the housing.
4. Open the user interface of the gateway and check if the SD card is recognized by the device (see [IP connection to web server](#) and [Login](#)).
5. Start **Information** → **Gateway Status** → **Hardware Status**.
The page will show you if the SD card is recognized in the file system and how much of the storage memory is available.



Maintenance

When selecting an SD card bear in mind the range of the operating temperature of the dataFEED edgeGate.



Note

The micro SD card is not included in the delivery.

2.6 Resetting the device

If the dataFEED edgeGate cannot be reached in the event of a configuration error, the device can be reset to default factory settings by pressing the reset button at the bottom of the front panel.

This is how to reset the dataFEED edgeGate:

1. Disconnect the device from the network.
2. Reconnect the device with the network and press the reset button until the LEDs SYS, RUN and ERR light up for about one second.



Note


The reset button is only active for a few seconds during the restart to make sure that the configuration is not accidentally reset.

3 Configuration and login

3.1 IP address information

- The default IP address for the Ethernet interface in the Machine Floor LAN is 192.168.1.111 (see device label).
- The IP address of the web server in the common LAN is configured per default via DHCP. Depending on the configuration of your local DHCP- and DNS-servers it is possible to reach the device by this host name in your network.
- The dataFEED edgeGate supports the network connection protocol UPnP (*Universal Plug And Play*) for Windows 10. MAC, Linux und Android use Avahi/Zeroconf, the *Zero Configuration* network implementation protocol which identifies the gateway as an HTTPs server.

3.2 IP connection to web server

Your network has a DHCP and DNS server	Your network does <u>not</u> have a DHCP and DNS server
<ol style="list-style-type: none"> 1. Connect the upper Ethernet socket (IT) to your network. 2. Read the last 4 digits/letters of the dataFEED edgeGate serial number (in the lower left part of the label). <p>The host name of the device is edgegate followed by the last 4 digits/letters of the serial number. For example, if the serial number is 123456789ab, the host name is edgegate89ab.</p>	<ol style="list-style-type: none"> 1. Connect the lower Ethernet socket (MACHINE) directly to a laptop.  <ol style="list-style-type: none"> 2. Set the laptop IP address to 192.168.1.1/24.

Your network has a DHCP and DNS server	Your network does <u>not</u> have a DHCP and DNS server
3. Open your browser and enter the address http://<hostname> or https://<hostname>. (*)	3. Open your browser and enter the address http://192.168.1.111 or https://192.168.1.111 (*)
4. The login window appears	4. The login window appears.

(*) The dataFEED edgeGate support the HTTPs protocol, which provide a secure and encrypted transfer of sensitive data such as passwords so the data cannot be read by another network user. In addition, HTTPs uses a certificate to identify the server. At Softing we use the OPC UA server certificate that has been generated before the last reboot.

3.3 Login

Log in with the respective login name and password. The following standard logins and passwords are available:

Role	Login name	Password
Administrator	administrator	administrator
IT administrator	itadmin	itadmin
Service or maintenance engineer	mfadmin	mfadmin



Note

We highly recommend changing the standard password(s) with a secure password after you logged in for the first time.

3.4 Completing your configuration

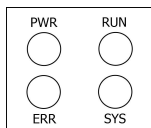
To complete your configuration, you need to configure:

- time settings
- IT settings
- machine settings including symbol import

For detailed information see the online help in the web server application.

4 LED status indicators

The dataFEED edgeGate is equipped with four LEDs on its front side:










PWR	stands for power supply (permanently green if the 24V DC power supply is ok)
RUN	stands for running
ERR	stands for error
SYS	stands for system

The LEDs may be on permanently or flash in different colors and frequencies. We use the following symbols:

Symbol	Color	Lighting
	none	off
	red	permanent
	green	permanent
	red	flashing
	green	flashing

Meaning of the LEDs

RUN		Permanently green while the OPC UA endpoint has been opened and the device is fully functional and the web server is available.
		Flashing green while the OPC UA namespace is built up (evaluating symbols etc.)
SYS		Permanently green while the firmware image is unzipped.
		Flashing green while the consistency of the image is checked and the kernel is exchanged.
		Flashing red while the firmware is replaced with the firmware image content. (During this time the device is not fully operational.)
ERR		Permanently red if the OPC UA endpoint could not be opened or an error during firmware update occurred.
		Flashing green while the configuration has pending changes.



LEDs are shortly switched off during reboot

If you reset the device using the reset button on the front plate or by clicking **[Reboot]** in **Service Settings - Reset - Gateway restart** in the web server interface, the LEDs are shortly switched off.

5 Technical data

Power supply	18 VDC...32 VDC; SELV/PELV supply mandatory Typical input current is 200 mA; maximum is 1 A (considering the rush-in current at switch-on).
Ethernet	2x IEEE 802.3 100BASE-TX/10BASE-T (independent interfaces)
Operating temperature, horizontal DIN rail installation	-40 °C .. +50 °C (0 mm minimum distance) -40 °C .. +55 °C (22.5 mm minimum distance)
Operating temperature, vertical DIN rail installation	-40 °C .. +35 °C (0 mm minimum distance) -40 °C .. +55 °C (22.5 mm minimum distance)
Storage temperature	-40 °C...+85 °C
Relative humidity	10 %...95 % (non-condensing)
Altitude	Must not exceed 2,000 m
Location	Indoor use only; no direct sunlight
Dimensions (H x W x D)	100 mm x 22.5 mm x 105 mm
Mounting	35 mm DIN Rail
Ingress protection	IP20
Weight	about 0.4 kg
IT Network / Cloud Connectivity	OPC UA (Server, 20,000 items in total), MQTT (Publisher, up to 1,000 topics)
Native IoT Hub Support	Microsoft Azure IoT Suite connected factory
Industrial Network Connectivity	OPC UA, Siemens S7-300, S7-400, S7-1200, S7-1500
Supported Engineering Tools	SIMATIC Step 7, TIA Portal

6 Declaration of the manufacturer

This device complies with the requirements of the EC directive 2004/108/EG, "Electromagnetic Compatibility" (EMC directive). It meets the following requirements:

- **Emission:**
 - EN 55011 Limits and methods of measurement of radio disturbance characteristics of industrial, scientific and medical (ISM) radio frequency equipment, group 1, class A
 - EN 55022 Information technology equipment; Radio disturbance characteristics; Limits and methods of measurement, class A
 - EN 61000-6-4 Electromagnetic compatibility (EMC); Part 6-4: Generic standard – Emission standard for industrial environments
- **Immunity:**
 - EN 61000-6-2 Electromagnetic compatibility (EMC); Part 6-2: Generic standard - Immunity for industrial environments



A Declaration of Conformity in compliance with the above standards has been made and can be requested from Softing Industrial Automation.



ROHS

The dataFEED edgeGate device is ROHS compliant.



Note

To fulfill the EMC requirements, the other components of your installation (DC adapter, Industrial Ethernet devices, etc.) also have to meet the EMC requirements. A shielded cable must be used. In addition, the cable shield must be grounded properly.

**CAUTION**

This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures!

**FCC**

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

VCCI

This is a VCCI Class A compliant product.

**WEEE**

Electrical and electronic equipment must be disposed of separately from normal waste at the end of its operational lifetime. Packaging material and worn components shall be disposed of according to the regulations applicable in the country of installation.

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