

Multi-instrument Communication, MIC-2 MKII DIN Quick Start Guide

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-power in control

Warnings and legal information



Legal information and responsibility

DEIF takes no responsibility for installation or operation of the unit. If there is any doubt about how to install or operate the unit, the company responsible for the installation or the operation of the unit must be contacted.

Electrostatic discharge awareness

Sufficient care must be taken to protect the terminals against static discharges during the installation. Once the unit is installed and connected, these precautions are no longer necessary.

Safety issues

Installing the unit implies work with dangerous currents and voltages. Therefore, the installation should only be carried out by authorised personnel who understand the risks involved in working with live electrical equipment.

CE-marking

The unit is CE-marked according to the EMC directive for industrial environments, which normally covers the most common use of the product. The unit may not be opened by unauthorised personnel. If opened anyway, the warranty will be lost.

Be aware of the hazardous live currents and voltages. Do not touch any AC measurement inputs as this could lead to injury or death.

According to the instrument model, the current input type is for 1/5 A CTs or Flexible Current Transformer. Check the instrument model and connect the voltage and current inputs according to the following wiring diagrams.

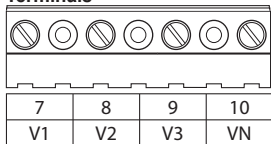
Installation and terminals

Installation

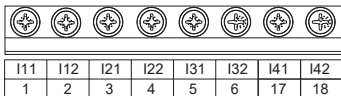
Make sure the unit is installed in a dry and dust free environment. Avoid placing it near to heat, radiation and strong electrical interference sources. The working temperature range of the unit is from -25°C to 70°C.

The unit can be installed into an IEC 92 mm DIN (square) or an ANSI C39.1 (4" round) form.

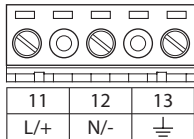
Terminals



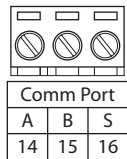
Voltage input



Current input



Power supply



Communication

Ground terminal connection

Ground can be connected to ground on a grounded system (star point on the generator is connected to ground). On an IT system, terminal 13 must be left open, otherwise a false insulation error will occur.



Communication

The unit has a standard RS485 communication port and optional Ethernet or Profibus communication modules. The unit supports dual communication which means the RS485 serial communication can be used together with either an Ethernet or a Profibus connection.

Modbus communication settings

The communication terminals are A, B, S (14, 15, 16). A is the differential signal +, B is the differential signal –, and S is the shield. Up to 32 devices can be connected on an RS485 Modbus. The overall length of the Modbus cable cannot exceed 1000 m. When multiple units are connected serially on the same RS485 Modbus, each unit must be assigned a unique device address. This address can be any integer between 1 and 247.

Ethernet communication settings (optional)

AXM-WEB-PUSH default settings are:

- IP Address (192.168.1.254)
- Subnet Mask (255.255.255.0)
- Gateway (192.168.1.1)
- Primary DNS Server (202.106.0.20).

To enter the settings webpage, the default password is: 12345678.

Profibus communication settings (optional)

AXM-PROFI default settings are:

- Device address 0

Profibus parameters can be set or viewed through communication using utility software. Please refer to the Profibus module user's manual chapter 3 "Application of Profibus DP Protocol" for operation details.

I/O module (option)

Digital input (DI)

An external power supply (16~30 V DC – max load 2 mA) is required for the digital inputs. DI can be used as a pulse counter to monitor switch status or to monitor event sequences.

Digital output (DO)

Two modes available: alarm output and energy pulse output. One module can only support one mode at a time. In alarming mode, conditions can be set using the utility software. In energy pulse mode, output parameters can be set from the utility software (voltage 20~160 V AC/DC, max. load 100 mA).

Relay output (RO)

Two modes available: control (latch or pulse) and alarm output (latch only). One module can only support one mode at a time. In control mode, relays can be switched on and off from the utility software. In alarming mode, conditions can be set using the utility software (max voltage 250 V AC/30 V DC, load 3 A).

Analogue input (AI)

Each module supports 4-20 mA or 0-20 mA current input. Settings can be made from the utility software.

Analogue output (AO)

Each module supports 4-20 mA or 0-20 mA current output. Settings can be made from the utility software.

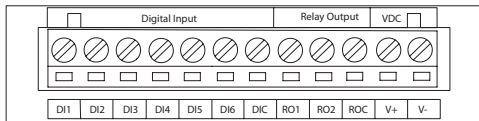
Power supply for DI

24 V isolated power supply is used as an auxiliary power supply for digital inputs.

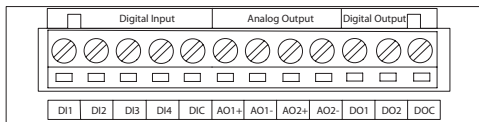
Output current 42 mA load, Max 21 X Digital Input (DI).

I/O module (option)

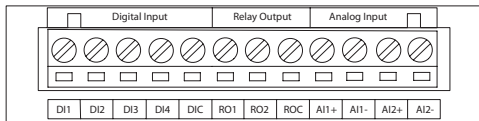
Three types of I/O modules with different I/O combinations are available:



AXM-IO1:
6 × DI, 2RO,
1 Power Supply
for DI



AXM-IO2:
4 × DI, 2× AO,
2× DO



AXM-IO3:
4 × DI, 2 × RO,
2 × AI

Note: A maximum of 1 communication and 2 input/output modules can be used for each unit.

I/O parameters can be set or viewed through communication using utility software. Please refer to the I/O modules user's manual chapter 3 for operation details.

AXM-IO2 has two analogue outputs. Please notice that functionality is limited compared to traditional transducers. For more information, please read the I/O modules user's manual chapter 3.

Alarming

Up to 16 alarming channels can be selected from 80 available parameters. Alarming channels and conditions can be set from the utility software. Please refer to MIC-2 MKII DIN user's manual section 4.4 for details.

DIN Rail Installation

Except the LCD display and the front panel control keys, the meter with DIN rail mount option includes the same functions as the panel mount version. The default device address and the default baud rate of the DIN rail meter are 1 and 19200 respectively. Those two default values will always be used for the first minute after the meter is powered on. The device address and the baud rate of the meter will change to the user-defined values after the first minute.

Utility software

The free utility software DEIF View is a user-friendly real time monitoring and data logging for energy saving and power quality analysis. This software is intended for users to monitor multiple parameters continuously. It allows for real-time monitoring and maintenance.

Download DEIF View: www.deif.com/software



More information

The following can be downloaded from www.deif.com/documentation:

- MIC-2 MKII DIN user manual
- Ethernet TCP/IP - AXM-Net manual
- AXM-Profibus – AXM-PROFI manual
- I/O modules - AXM manual
- MIC-2 MKII DIN utility software
- GSD file for Profibus



Specifications

Voltage inputs	
Nominal voltage UN	L-N 400 V AC, L-L 690 V AC
Overload capacity	1500 V continuous, 2500 V for 1 min
Nominal frequency and range	50/60 Hz, 45 Hz to 65 Hz

Current inputs	
Nominal current	5 A
Overload capacity	20 A continuously, 100 A for 1 s

FCT inputs	
Nominal voltage	100 mV

Frequency	
Nominal frequency	50/60 Hz,
Frequency range	45 Hz to 65 Hz

Accuracy	
U, I and F	Class 0.1
Harmonic U, I	Class 1

Auxiliary power supply	
AC	100 to 415 V AC +/-10 % 50/60 Hz
DC	100 to 300 V DC +/-10 %
Consumption	≤ 5 VA

DEIF reserves the right to change any of the above.