



# AMS Asset Monitor

## QUICK USER GUIDE

This document is intended to provide basic information about installation, configuration and safety. For more detailed information please reference the Operating Manuals on the Emerson website. Scan the QR code to go to all related product documentations.



<https://emerson.com/AMSAssetMonitor>, select View Product

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## General

The hazardous location approvals described in [Hazardous location installation](#), the EU Declaration of Conformity<sup>1</sup>, and the AM 5820-IM China RoHS certificate do not apply to the blue AMS Asset Monitor – Marine Paint variant AM 5820-IM BL.

### ⚠ DANGER

Because the device is electrical equipment, commissioning and service must be performed only by trained and authorized personnel. Maintenance must be carried out only by trained, specialized, and experienced personnel.

### ⚠ DANGER

The KL4502X1-MA1 CHARM Relay Output Terminal Block may have hazardous live voltages on its output terminals. This terminal block is capable to switch field power of 250 V AC. Ensure that proper safety precautions, such as de-energizing field power, are observed during installation, maintenance, or any time wiring changes are made to the CHARM Relay Output Terminal Block.

## Minimum requirements

The AMS Asset Monitor BASE hardware consists of a rugged enclosure with internal electronics designed to support up to 12 CHARMs, an address module, and a AM 5730 +24 V DC Power Module. The BASE unit provides the infrastructure that connects the CHARMs and their field signal to the integrated analytics. For communication and configuration, the AMS Asset Monitor is equipped with three Ethernet interfaces.

The following parts are required to connect to the AMS Asset Monitor BASE and to the system:

- +24 V DC / 4 A external power supply
- PC with one free Ethernet port for a direct one-to-one connection to the AMS Asset Monitor.
- The PC must have a compatible web browser installed.

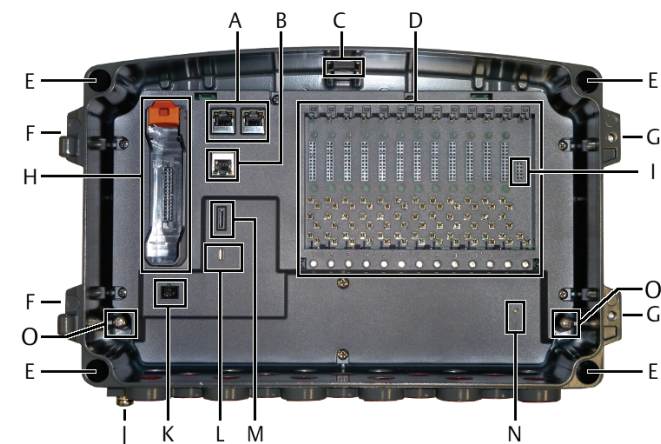
Web browser	Version
Google Chrome	78.0 or later
Microsoft Edge	79.0 or later
Mozilla Firefox	70 or later
Apple Safari	12.1 or later

- Ethernet cable (CAT 5 or better)

## Hardware overview

For the first commissioning, the AMS Asset Monitor must have installed at least the +24 V DC Power Module and an address plug. Fig-1 provides an overview of the AMS Asset Monitor hardware.

Fig-1: Overview AMS Asset Monitor



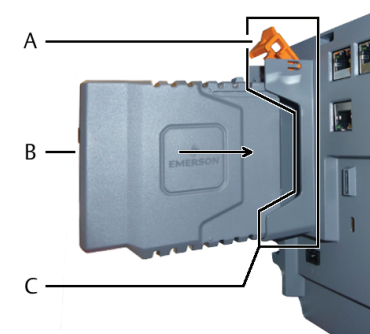
<sup>1</sup> AM 5820-IM BL EU Declaration of Conformity on request

- A. Ethernet switch with two RJ-45 connectors (left connector: LAN2.1, right connector LAN2.2) to daisy chain AMS Asset Monitors, speed 100 Mbit
- B. RJ-45 Ethernet connector LAN1 for configuration and connection to subsequent systems, speed 1 Gbit
- C. Status light
- D. CHARM baseplate with 12 slots for up to 12 CHARM terminal blocks, 12 CHARMS, and a CHARM labeling component
- E. Mounting holes
- F. Door hinge
- G. Screws holes for securing the door
- H. Power module slot
- I. Address plug slot
- J. External grounding terminal
- K. Power supply terminals
- L. Non-functional. For internal use only.
- M. microSD Card slot (for future use)
- N. Reset button with status LED
- O. Internal grounding terminals

### +24 V DC Power Module installation and connection

1. Install the +24 V DC Power Module as shown in Fig-2.

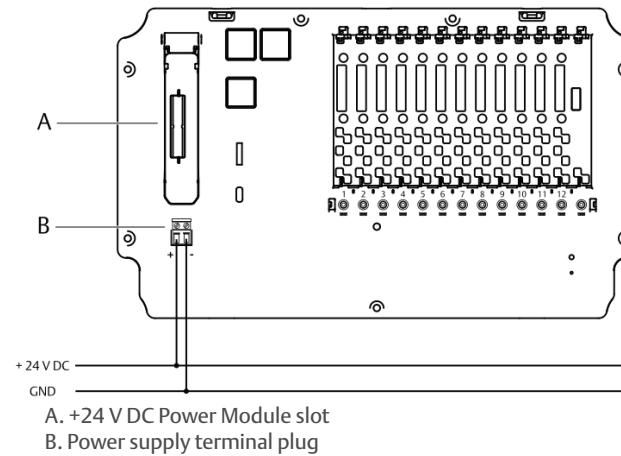
Fig-2: +24 V DC Power Module



- A. Latch in open position
- B. +24 V DC Power Module
- C. +24 V DC Power Module slot

2. Connect a +24 V DC power supply.

Fig-3: Power supply connection

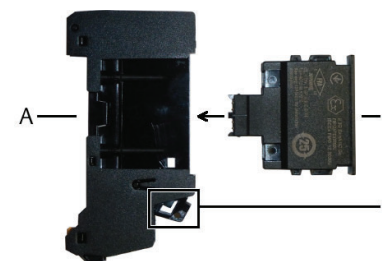


- A. +24 V DC Power Module slot
- B. Power supply terminal plug

### Address plug installation

Install the CHARM Address Terminal Block and the Address Plug. See Fig-4 for the location of the required slot.

Fig-4: Address Plug



- A. CHARM Address Terminal Block

- B. Address Plug
- C. Latch in open position

### CHARM installation

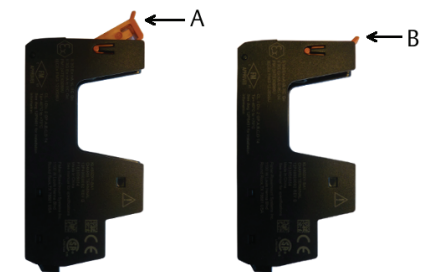
1. Select the slot where the CHARM must be installed. CHARMs can be installed in slots 1 to 12.
2. Hook the CHARM Terminal Block into the lower part of the needed slot and push it in.

Fig-5: CHARM Terminal Block installation



- The CHARM Terminal Block locks with an audible click.
3. Ensure that the latch of the CHARM Terminal Block is in the open position. If the latch is in the closed position, move it outwards to open it.

Fig-6: Latch positions



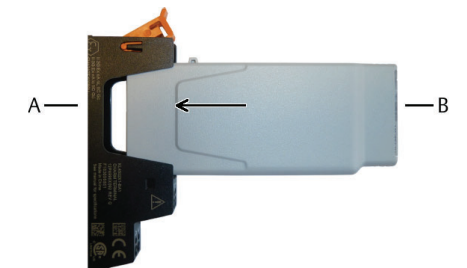
- A. Latch open
- B. Latch close

4. Gently push the CHARM straight into the CHARM Terminal Block installed before. The CHARM latch locks with an audible click in the closed position.

### ⚠ DANGER

Do not try to install a CHARM into a CHARM Terminal Block with keying posts set for another CHARM type. This might damage the terminal block and CHARM. Always reset the keying post settings before installing another CHARM.

Fig-7: CHARM Installation



- A. CHARM Terminal Block
- B. CHARM

5. Wire the CHARM Terminal Block according to the requirements of the installed CHARM.

## First connection

1. Ensure that the AMS Asset Monitor is powered by a +24 V DC power supply.
2. Open the AMS Asset Monitor.
3. Connect the PC to the AMS Asset Monitor. Use the lower socket of the three RJ-45 sockets (see [Hardware overview](#)).
4. Ensure that the Ethernet settings of the PC aligns to the default IP address of the AMS Asset Monitor.
5. Start your web browser and enter the default AMS Asset Monitor IP address: **169.254.153.110**.
6. The web browser indicates an insecure connection. Ignore this warning and continue to connect to the AMS Asset Monitor until you reach the login dialog.

Add the certificate, created by the AMS Asset Monitor, to your web browser to enable encrypted communication.

7. Enter user name and password to log into AMS Asset Monitor Web Interface. Credentials for the first login:

User name: **admin**  
Password: **admin**

8. The home screen of AMS Asset Monitor Web Interface opens. Configure the AMS Asset Monitor according to the requirements of the assets to be monitored.

## Hazardous location installation

Version 2.1

### General installation requirements

The AMS Asset Monitor must be solely connected to SELV/PELV electrical circuits to meet the requirements for explosion protection. This also applies to all devices connected to the AMS Asset Monitor. Exceptions are explicitly stated. In version 1.0, the Relay Terminal Block is approved for voltages up to 250 V. An installation in Zone 2 is permitted if the conditions stated in the following chapters are met.

Ensure a distance of at least 50 mm between the outer edge of the terminals used for intrinsically safe field installation wiring and all other circuits or wirings.

Use wire types and wiring apparatus with a temperature rating  $\geq 70^{\circ}\text{C}$ .

### Connection requirements

The wire cross-section of the used cables must be within the range of  $0.34 < F < 2.5 \text{ mm}^2$ . Use ferrules at stranded conductors.

Connect the shield of the Ethernet cable to ground at the remote station. Integrate the grounding of all cable shields into to potential equalization system.

All used connectors (Ethernet- and power supply terminals) must be locked. Ensure this besides using suitable connectors by using cable glands, suitable for the respective cable diameter approved for the use in potentially explosive atmospheres.

Only use the USB port at open field housing, which requires a hazard-free environment.

### Special conditions of safe use

1. The end user shall ensure appropriate earthing upon installation. The transmission resistance for SELV/PELV circuits must not exceed  $10^9 \Omega$ . For the grounding of hazardous live voltages comply with the additional requirements of protective grounding.
2. Electrostatic charging during operation and maintenance has to be excluded. The device shall only be installed in areas where operational and process related electrostatic charges are not present.
3. Final acceptance of this equipment when installed is subject to the jurisdiction of the local inspection authority. The DeltaV CHARMS have their own component certification to be assessed within the overall system.

The following warnings must be observed:

- WARNING: EXPLOSION HAZARD - DO NOT CONNECT OR

DISCONNECT WHILE CIRCUITS ARE LIVE UNLESS AREA IS KNOWN TO BE NONHAZARDOUS

AVERTISSEMENT: RISQUE D'EXPLOSION- NE PAS CONNECTER OU DECONNECTER TANT QUE LES CIRCUITS SONT SUR TENSION SEULEMENT SI LA ZONE EST CONNU POUR ÊTRE NON DANGEREUX

- WARNING: DO NOT USE USB PORT UNLESS THE AREA IS KNOWN TO BE NON-HAZARDOUS

AVERTISSEMENT: NE PAS UTILISER PORT USB SEULEMENT SI LA ZONE EST CONNU POUR ÊTRE NON DANGEREUX

- WARNING: EXPLOSION HAZARD. DO NOT REMOVE OR REPLACE CHARM MODULES UNLESS POWER HAS BEEN DISCONNECTED OR THE AREA IS FREE OF IGNITIBLE CONCENTRATIONS

AVERTISSEMENT: RISQUE D'EXPLOSION. NE PAS ENLEVER OU REMPLACER LES MODULES DE CHARME À MOINS QUE L'ALIMENTATION SOIT DÉCONNECTÉE OU QUE LA ZONE SOIT EXEMPT DE CONCENTRATIONS IGNITIBLES

- WARNING: SUBSTITUTION OF COMPONENTS MAY IMPAIR INTRINSIC SAFETY

AVERTISSEMENT: LA SUBSTITUTION DE COMPOSANTS PEUT COMPROMETTRE LA SECURITE INTRINSEQUE

- WARNING: DO NOT OPEN ENCLOSURE IN A DUST HAZARDOUS AREA

AVERTISSEMENT: NE PAS OUVRIR DANS UNE ZONE À RISQUE D'EXPLOSION DE POUSSIÈRES

### Technical data, explosion protection

The AMS Asset Monitor is checked and certified for the following, if connected to SELV/PELV – electrical circuits for use in potentially explosive atmospheres:

IECEX/ATEX/CSA	
Type of protection	non-sparking nA in combination with nC and [ic], depending on the installed CHARMS
Identification	IECEX/ATEX
	CSA
Temperature range	-40°C < Tamb < 55°C

IECEX/ATEX/CSA		
Standards	IECEX	IEC 60079-0:2017; Edition 7.0 IEC 60079-7:2017; Edition 5.1 IEC 60079-11:2011; Edition 6.0 IEC 60079-15:2010; Edition 4.0 IEC 60079-31:2013; Edition 2.0
	ATEX	EN IEC 60079-0:2018 EN IEC 60079-7:2015/A1:2018 EN 60079-11:2012 EN 60079-15:2010 EN 60079-31:2014
	CSA	CAN/CSA-C22.2 No. 0-10 CAN/CSA-C22.2 No. 61010-1:12 + Amd 1-18 CAN/CSA C22.2 No. 94.2-15 CAN/CSA-C22.2 No. 60079-0:15 CAN/CSA C22.2 No. 60079-0:19 CAN/CSA-C22.2 No. 60079-11:14 CAN/CSA-22.2 No. 60079-15:16 CAN/CSA C22.2 No. 213-17 CAN/CSA-C22.2 No. 60529:16 IEC 60529:2013 + COR2:2015 NEMA ANSI/IEC 60529-2004 (R2011) ANSI/UL 50E (Second Edition) ANSI/UL 61010-1 (Third Edition) ANSI/UL 121201-2017 (Ninth Edition (R2019)) ANSI/UL 60079-0-2019 (Seventh Edition) ANSI/UL 60079-11-2014 (Sixth Edition) ANSI/UL 60079-15-2013 (Fourth Edition (R2017))
IECEX approval number	IECEX BVS 20.0001X	
ATEX approval number	BVS 20 ATEX E 001 X	
CSA approval number	19CA70218089 X	

## Technical support

You may need to ship this product for return, replacement, or repair to an Emerson Product Service Center. Before shipping this product, contact Emerson Product Support to obtain a Return Materials Authorization (RMA) number and receive additional instructions.

### Product Support

Emerson provides a variety of ways to reach your Product Support team to get the answers you need when you need them:

Phone	Toll free 1 800 833 8314 (U.S. and Canada) +1 512 832 3774 (Latin America) +63 2 8702 1111 (Asia Pacific, Europe, and Middle East)
Email	Guardian.GSC@Emerson.com
Web	<a href="http://www.emerson.com/en-us/contact-us">http://www.emerson.com/en-us/contact-us</a>

To view toll free numbers for specific countries, visit <http://www.emerson.com/technicalsupport>.

### Note

If the equipment has been exposed to a hazardous substance, a Material Safety Data Sheet (MSDS) must be included with the returned materials. An MSDS is required by law to be available to people exposed to specific hazardous substances.

## Storage and transport

Store and transport the device only in its original packaging. Observe the environmental conditions for storage and transport specified in the product-related manual.