LRI®

SECURE BY DESIGN · FIRMWARE v1.03

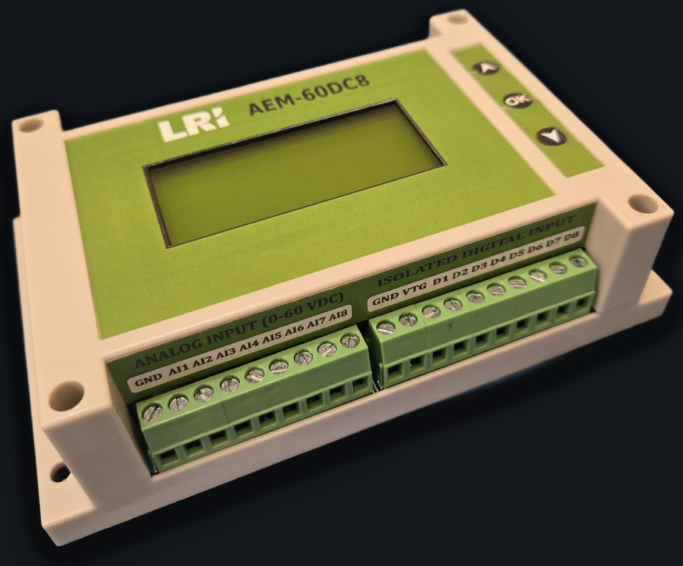
INDUSTRIAL DC MONITORING PLATFORM

AEM-60DC8

User Manual

Industrial DC Voltage Monitor · 8 Channels · RS-485 Modbus RTU

This manual covers the installation, local configuration and integration of the AEM-60DC8. Read it in full before installing, configuring or operating the device; keep it accessible throughout the product life-cycle.



DOCUMENT

Product	LRI-AEM-60DC8
Firmware	v1.03
Document	MAN-AEM60DC8-EN · Rev. 2026-05
Manufacturer	LRI Industrial Automation

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DOCUMENTATION · MODBUS MAP · SIMULATOR
aem.lri.com.br

USER MANUAL
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01 Introduction and safety information

The AEM-60DC8 is electronic equipment designed for installation in an industrial panel. Installation and maintenance must be carried out by qualified personnel with the panel de-energised.

Target audience

This manual is intended for integrators, electricians, maintenance technicians and automation engineers responsible for installing, commissioning and operating the AEM-60DC8 in industrial panels.

Intended use

Multi-channel DC voltage monitoring in electrical panels, battery banks, rectifiers, DC telecom systems and industrial infrastructure. The device is not certified for hazardous areas (Ex/IEC 60079) nor for functional safety (SIL) applications.

Conventions used in this manual

Note	Useful complementary information.
Caution	If ignored may cause misconfiguration or loss of communication.
Warning	Risk of damage to the equipment or installation.

Safety notices

Input voltages

Do not apply more than 75 V DC to analog inputs nor more than 30 V DC to digital inputs. Higher voltages cause permanent damage.

Grounding and isolation

Analog inputs are not isolated from system GND. Digital inputs are opto-isolated (5 kV). Ensure a proper common ground between all RS-485 bus nodes.

Installation environment

Install in a location protected from water, conductive dust and excessive vibration. Respect the operating range −10 °C to +70 °C and 5 % to 95 % non-condensing humidity.

Maintenance

There are no user-serviceable parts inside. Do not open the enclosure. Opening voids the warranty.

02 Product overview

The LRI-AEM-60DC8 simultaneously monitors up to eight independent DC voltage channels plus an NTC temperature channel and eight opto-isolated digital inputs. Values are shown on the local display and exposed to SCADA supervisors and PLCs over RS-485 Modbus RTU.

Each channel has configurable fault and warning thresholds. When a quantity moves out of range, the device signals with the RGB LED, buzzer and alarm output, and logs the event with date and time.

Firmware v1.03 adds an extended Modbus map with 147 holding registers in 17 blocks, event logging, multi-point calibration, three firmware update channels and Ed25519 signed-firmware cybersecurity.

Device identification

Side label	Model, serial number and supply voltage.
Firmware version	About screen (menu item 19) and Modbus registers 40050–40052.
Serial number	Factory programmed, readable in registers 40120–40124.
Processing core	STM32G0B0RE (Cortex-M0+) with FreeRTOS.

AEM-DC8 family models

CODE	RANGE	CHANNELS	DISPLAY
AEM-60DC8	0–60 V DC	8	16×4 LCD
AEM-30DC8	0–30 V DC	8	16×4 LCD
AEM-150DC8	0–150 V DC	8	16×4 LCD
AEM-60DC8-NL	0–60 V DC	8	—
AEM-30DC8-NL	0–30 V DC	8	—
AEM-150DC8-NL	0–150 V DC	8	—

03 Mechanical installation

The AEM-60DC8 mounts on a 35 mm DIN rail. Snap the upper latch into the rail and press the base until it clicks. The device measures 145 × 90 × 40 mm and weighs 345 g.

Mounting procedure

1. De-energise the panel and verify the absence of voltage before starting.
2. Position the 35 mm DIN rail horizontally, fastened every 200 mm.
3. Engage the device's upper latch into the rail.
4. Press the base of the device until you hear the click.
5. Check seating — the device must not wobble nor slide sideways.

Recommended free space

Above	≥ 30 mm — ventilation and access to upper terminals
Below	≥ 30 mm — access to lower terminals and cable bending
Sides	≥ 10 mm — between adjacent units
Front	≥ 80 mm — LCD reading and key access

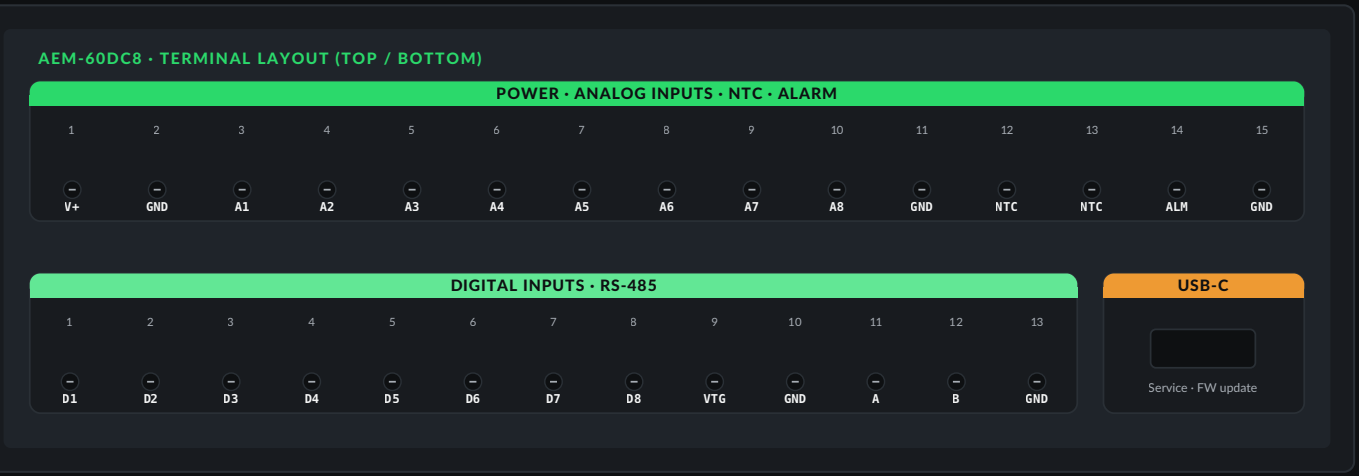
Dimensions and weight

Width	145 mm
Height	90 mm
Depth	40 mm
Weight	345 g
Mounting	35 mm DIN rail (EN 60715)
Enclosure	Self-extinguishing thermoplastic UL94 V-0

Note: Note: total depth including screw terminals may reach 55 mm. Size the cabinet to accommodate cabling without critical bends.

04 Connections and terminals

All connections use screw terminals. De-energise the panel before connecting cables. Use wire gauge appropriate for the current and respect polarity. The diagram below shows the location and function of every terminal group.



Device terminals

TERMINAL	FUNCTION	DESCRIPTION
V+, GND	Power supply	10 to 30 V DC input. Reverse polarity protection.
A1–A8, GND	Analog inputs	Eight DC voltage channels, common GND. Range 0–60 V (standard model).
D1–D8, VTG, GND	Digital inputs	Eight opto-isolated inputs, 0–30 V DC, own isolated GND.
A, B, GND	RS-485	2-wire half-duplex Modbus RTU bus plus ground reference.
USB-C	Update	Service port for firmware update via PC.
NTC	Temperature	2-wire NTC 10 kΩ sensor.
ALM, GND	Alarm output	Open-drain MOSFET, return via common GND.

DIP switch SW2 — Modbus address and termination

The 4-position DIP block SW2, next to the RS-485 connector, sets the Modbus slave address and bus termination. Switches 1–3 form the address; switch 4 (TR) engages the 120 Ω termination resistor. The address is read only at power-on — change the switches with the device off.

SLAVE ID	DIP 1	DIP 2	DIP 3	NOTES
1	OFF	ON	ON	Factory default · single unit
2	ON	OFF	ON	—
3	ON	ON	ON	—
5	OFF	ON	OFF	—
6	ON	OFF	OFF	—
7	ON	ON	OFF	—

- Address 4 is not reachable: the 0-0-0 pattern is raised to 1 by the minimum-address guard.
- Switch 4 (TR) is independent of the address — enable it only on the physical bus end-points.
- Two units with the same Slave ID corrupt communication. After changing switches, confirm via register 40029.

05 Power-up and first boot

After verifying the connections, energise the panel. The device runs a nine-layer validated boot sequence and enters operation automatically.

Power-up sequence

1. Check the supply polarity (V+ and GND) and voltage (10 to 30 V DC).
2. Energise the panel — the RGB LED turns white during initialisation.
3. The LCD shows the boot screen with product name and firmware version (≈ 2 s).
4. The device enters normal operation — LED turns green if no fault is active.
5. On the first power-up of a fresh PCB, configuration is initialised with factory defaults.

RGB status LED

White	Startup — boot running
Green	Normal — all quantities within range
Red	Fault — voltage, temperature or DI out of configured range
Orange	Warning (pre-alarm) — quantity close to limit
Yellow	Calibration mode active
Blue blink	Modbus RS-485 communication active (overlaid on status)
Off	Display in sleep or LED disabled

Boot screen

Caution: Caution: the first entry into the configuration menu requires creating a 4-digit password. There is no default password and the firmware rejects ~205 trivial combinations.

06 Local interface · LCD and keys

LCD display

The display is a 16×4 character LCD integrated into the PCB, with green backlight. It shows operation screens, fault screens and the configuration menu. The backlight turns off automatically after the configured sleep time and turns on at any key press.

Navigation keys

The device has three keys — UP, DOWN and OK. Each key recognises short and long press; simultaneous UP+DOWN forms a chord. Actions depend on the current screen context.

KEY / CONTEXT	ACTION
`UP / DOWN — short`	Switches pages on the main screen; moves the cursor in menus and editors.
`UP / DOWN — long`	In numeric editors, changes the value in ×10 steps; speeds up navigation.
`OK — short`	Confirms the option; enters the selected item; advances to the next field.
`OK — long`	On the main screen, opens the configuration menu (prompts for password if set).
`UP — long`	On the main screen, acknowledges (silences) the active alarm. Password protected.
`OK + DOWN`	Universal back: exits the current sub-menu to the previous level.
`UP + DOWN`	On the voltage screen, activates the channel selection cursor.
`DOWN — long (in calibration)`	Exits calibration mode and returns to the menu.

Internal buzzer

The internal buzzer is triggered by voltage and temperature faults when enabled in the alarm menu. Digital input faults raise the device state and light the LED, but do not activate the buzzer. The audible alarm can be silenced with UP long (ACK) or by Modbus write.

Inactivity timeouts

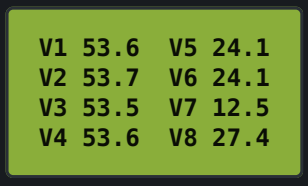
Inside sub-menu	10 s — returns to menu list
At menu list	10 s — returns to main screen
Calibration password	Disabled — exit only via long DOWN
Calibration mode	Disabled — exit only via long DOWN

07 Operation screens

In normal operation, the display cycles through a set of monitoring screens. Use UP and DOWN to switch pages. When a fault is active, fault screens enter automatic rotation every 5 seconds.

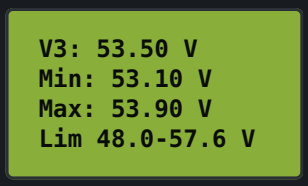
Boot screen

Shown at power-up (≈ 2 s). Displays product name and firmware version.



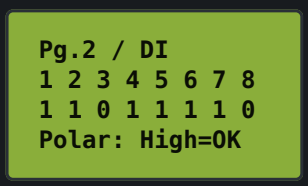
Voltages — 8 channels

Main screen. Shows the eight channels simultaneously in two columns.



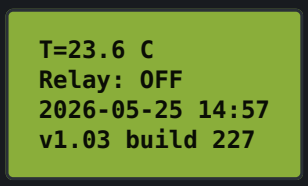
Channel detail

Reached via channel cursor (UP+DOWN + OK). Shows live value and extremes.



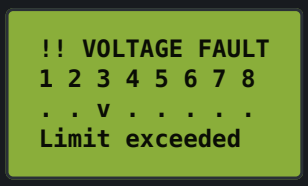
Digital inputs

Logic state of the 8 DI inputs and configured polarity.



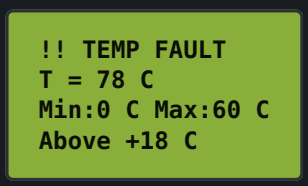
System info

Summary: NTC, alarm relay state, date/time and firmware version.



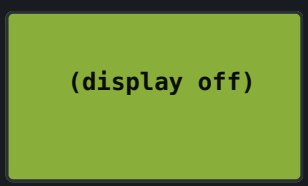
Voltage fault

Indicates an out-of-range channel. v = below min · ^ = above max.



Temperature fault

NTC out of range. Last line shows the deviation from the exceeded limit.



Sleep screen

After the configured timeout the display turns off. Any key reactivates.

08 Configuration menu

Access and navigation

From the main screen, hold OK (long press) to open the menu. If a password is set, the device prompts for the four digits before granting access. The password is mandatory — on first entry on a new unit, the device requires creating a 4-digit password and rejects weak combinations.

Menu items

01	**Reset Alarm** Acknowledges and clears the active alarm.	02	**DI Mode** Global digital-input polarity (High=OK or Low=OK).
03	**DI Alarms** Enables alarm per digital channel (8-bit mask).	04	**DI Advanced** Per-channel polarity and debounce time.
05	**Temp Limit** Sets min and max temperature thresholds.	06	**Voltage Limit** Sets per-channel min and max voltage thresholds.
07	**Warnings** Pre-alarm band for temperature and voltage.	08	**Modbus Baud** Selects the RS-485 baud rate (4800–115200 bps).
09	**Calibration** Multi-point voltage and temperature calibration. Password protected.	10	**FW Update** Starts firmware update via USB-C or peer (AEM→AEM).
11	**Language** Selects the language: Portuguese, English or Spanish.	12	**Date/Time** Sets the real-time clock (RTC).
13	**Screen Off** Display sleep time: Off, 1, 5, 10 or 30 min.	14	**Statistics** Min, max, mean and sample count per channel. Reset allowed.
15	**Events** First-out event history. Allows clear.	16	**Password** Sets or removes the configuration password.
17	**Reboot** Restarts the device or performs factory reset.	18	**Alarm** Delay, hysteresis, mode (manual/auto) and buzzer.
19	**About** Identification, boot counters and telemetry.	20	**Exit** Returns to the main screen.

09 Configuration procedures

The procedures below always start from the main screen. Numbers in parentheses indicate the menu item.

Set voltage thresholds for a channel

1. OK long to open the menu; select Voltage Limit (06).
2. Choose the channel (1 to 8) with UP/DOWN and confirm with OK.
3. Adjust the MIN value with UP/DOWN (long press = ×10 step). Confirm with OK.
4. Adjust the MAX value the same way. The device rejects max ≤ min.
5. Confirm with OK; the value is stored in non-volatile memory.

Configure the alarm

1. Open the menu and select Alarm (18).
2. Delay: 1 to 30 s — time out of range before triggering.
3. Hysteresis: return margin to avoid oscillation at the threshold.
4. Mode: manual (until ACK) or automatic (self-clears).
5. Buzzer: enable or disable audible warning.

Calibrate a voltage channel

1. Open the menu and select Calibration (09); enter the password.
2. Choose Voltage and the channel to calibrate.
3. Apply a known reference voltage to the channel.
4. Adjust the displayed value to match the reference (UP/DOWN).
5. The device shows the delta; confirm with OK to store the offset.

Change the Modbus baud rate

1. Open the menu and select Modbus Baud (08).
2. Choose the speed: 4800, 9600, 19200, 38400, 57600 or 115200 bps.
3. A confirmation screen warns that the connection will change.
4. Set the master (PLC/SCADA) to the same speed.

Set or remove the password

1. Open the menu and select Password (16).
2. Choose Set; enter four digits using UP/DOWN and OK.
3. Repeat the same four digits to confirm.
4. Weak passwords (1234, 0000, sequences) are rejected by firmware.

10 Alarm system

Every 100 ms the device evaluates three independent fault conditions: voltage out of range on any channel, NTC temperature out of range, and digital input in a state different from configured. Any active condition takes the device to the Fault state.

Voltage and temperature faults trigger the alarm output, the buzzer (if enabled) and the red LED. Digital input faults raise the state and light the LED but do not activate the buzzer.

Acknowledgement (ACK)

Acknowledgement is done locally with UP long on the main screen, or remotely via Modbus. In manual mode, the alarm stays signalled until acknowledged; in automatic mode, it self-clears when the fault disappears.

Device states

Startup	First seconds after power-up.
Normal	No active fault — green LED.
Warning	Pre-alarm on at least one quantity — orange LED.
Fault	At least one fault condition active — red LED.
Calibration	Operator inside the calibration menu; measurement scan suspended — yellow LED.
Update	Firmware update in progress — green LED blinking.

Fault codes

`F-V-MIN`	Channel voltage below configured minimum
`F-V-MAX`	Channel voltage above configured maximum
`F-T-MIN`	NTC temperature below minimum
`F-T-MAX`	NTC temperature above maximum
`F-DI`	Digital input in a state different from configured
`F-RTC`	RTC backup battery depleted — clock invalid

11 RS-485 / Modbus RTU communication

RS-485 half-duplex, two-wire interface, with reinforced ESD protection for industrial buses. Modbus address configurable via DIP switch or Modbus command.

Physical layer	RS-485 half-duplex, 2-wire
Protocol	Modbus RTU Slave (Server)
Frame format	8N1 — 8 data, no parity, 1 stop
Speeds	4800 / 9600 / 19200 / 38400 / 57600 / 115200 bps
Slave ID	1 to 7, set by DIP switch SW2
Factory default	Slave ID 1 · 9600 bps
Termination	120 Ω selectable via TR switch (DIP 4)
Protection	ESD ±16 kV HBM on A/B lines

Supported function codes

`0x03`	Read Holding Registers — read any defined register.
`0x10`	Write Multiple Registers — write R/W registers.
`0x46`	AEMUP/1 tunnel — private firmware update channel.

Read example — 8 voltages

Request	FC 0x03 · address 40001 · quantity 8
Response	16 bytes (8× uint16) — each value ÷ 100 = volts
Example	0x14A4 → 5284 → 52.84 V on channel 1

Cabling recommendations

- Use twisted-pair for signals A and B, with the same polarity on every node.
- GND must be common to all nodes, including the master (PLC/converter).
- Install 120 Ω termination only at the two physical bus end-points.
- Keep the RS-485 cable away from power cables and EMC interference sources.

12 Full Modbus map

The AEM-60DC8 exposes 147 holding registers organised into 17 functional blocks. Registers 40001–40029 preserve compatibility with legacy integrations; blocks from 40050 onward are extensions added in firmware v1.03. All values are scaled integers (×100 for voltage and temperature).

MEASUREMENTS

ADDRESS	NAME	TYPE	SC.	ACCESS	DESCRIPTION
40001–40008	Voltage CH1–CH8	uint16	×100	R	Voltage measured on the 8 analog channels (V × 100)
40009	NTC temperature	int16	×100	R	Temperature measured by the NTC sensor (°C × 100)

FAULT THRESHOLDS

ADDRESS	NAME	TYPE	SC.	ACCESS	DESCRIPTION
40010	NTC min limit	int16	×100	R/W	Minimum temperature limit
40011	NTC max limit	int16	×100	R/W	Maximum temperature limit
40012–40027	CH1–CH8 limits	uint16	×100	R/W	Min/max voltage limits for the 8 channels

COMMUNICATION

ADDRESS	NAME	TYPE	SC.	ACCESS	DESCRIPTION
40028	Baud rate index	uint16	–	R/W	Selects the RS-485 speed
40029	Slave ID	uint16	–	R	Modbus address (DIP switch)

IDENTITY

ADDRESS	NAME	TYPE	SC.	ACCESS	DESCRIPTION
40050	Major version	uint16	–	R	Firmware major version
40051	Minor version	uint16	–	R	Firmware minor version
40052	Build	uint16	–	R	Build number
40053–40055	Build date	uint16	–	R	Year, month, day of compilation
40056–40063	Model (ASCII)	8×uint16	–	R	Model name in 16 ASCII chars
40064	Hardware rev.	uint16	–	R	Board revision letter

DISPLAY

ADDRESS	NAME	TYPE	SC.	ACCESS	DESCRIPTION
40066	Temperature unit	uint16	–	R/W	0 = °C, 1 = °F

MODBUS DIAGNOSTICS

ADDRESS	NAME	TYPE	SC.	ACCESS	DESCRIPTION
40070–40071	RX frames	uint32	–	R	Modbus frames received
40072–40073	TX frames	uint32	–	R	Modbus frames sent
40074–40075	CRC errors	uint32	–	R	Frames with invalid CRC
40076	Seconds w/o polling	uint16	s	R	Time since last request
40077–40078	Uptime	uint32	s	R	Operation time since power-up
40079	Reset reason	uint16	–	R	Cause of the last reset

RESET TELEMETRY

ADDRESS	NAME	TYPE	SC.	ACCESS	DESCRIPTION
40080–40081	Boot counter	uint24	–	R	Total number of starts
40082	HardFault count	uint16	–	R	Severe faults recorded
40083–40084	HardFault PC	uint32	–	R	Program counter at fault
40085–40089	Telemetry health	uint16	–	R	Flags, IWDG, layout, TAMP domain

AEMUP / BOOT

ADDRESS	NAME	TYPE	SC.	ACCESS	DESCRIPTION
40090–40098	AEMUP statistics	uint16	–	R	HELLO/INFO/NACK counters
40099	Boot failure reason	uint16	–	R	Layer that rejected the last image

12.1 Full Modbus map

CONTROL

ADDRESS	NAME	TYPE	SC.	ACCESS	DESCRIPTION
40100	Bootloader request	uint16	–	W	Write 0xAE60 → update mode

RTOS HEALTH

ADDRESS	NAME	TYPE	SC.	ACCESS	DESCRIPTION
40101–40104	Heap (current/min)	uint32	B	R	Dynamic memory free (current and historical)
40105–40108	Stack per task	uint16	–	R	Stack slack of the 4 critical tasks

HARDFAULT FORENSICS

ADDRESS	NAME	TYPE	SC.	ACCESS	DESCRIPTION
40110	Context valid	uint16	–	R	1 = forensic registers trustworthy
40111–40116	LR, xPSR, SP	uint32	–	R	CPU state at last HardFault

RTOS CYCLE SLACK

ADDRESS	NAME	TYPE	SC.	ACCESS	DESCRIPTION
40117–40119	Max slack per task	uint16	ms	R	Largest interval observed per task

SERIAL NUMBER

ADDRESS	NAME	TYPE	SC.	ACCESS	DESCRIPTION
40120–40124	S/N components	5×uint16	–	R/W	Year, month, day, product, sequential

LCD MIRROR

ADDRESS	NAME	TYPE	SC.	ACCESS	DESCRIPTION
40130	Relay state	uint16	–	R	Alarm output state
40131–40136	RTC date/time	uint16	–	R	Year, month, day, hour, min, validity
40137	CPU usage	uint16	%	R	Processor usage percentage
40138–40139	Total heap	uint32	B	R	Total dynamic memory size
40140–40143	DI state + masks	uint16	–	R	Bitmap, mode, polarity, alarm mask

PEER UPDATE

ADDRESS	NAME	TYPE	SC.	ACCESS	DESCRIPTION
40150	Update trigger	uint16	–	R/W	Write target Slave ID to start peer update
40151–40159	State and progress	–	–	R	State, %, result, target, bytes, time, retries

SECURITY COUNTERS

ADDRESS	NAME	TYPE	SC.	ACCESS	DESCRIPTION
40160	Invalid signature	uint16	–	R	Layer 9 (Ed25519) rejected image
40161	Failed update	uint16	–	R	Update session in terminal error
40162	Rollback attempt	uint16	–	R	Image with lower generation submitted
40163	Protocol violation	uint16	–	R	NACK other than rollback (flood, magic, seq.)

BAUD RATE FORENSICS

ADDRESS	NAME	TYPE	SC.	ACCESS	DESCRIPTION
40190–40208	Baud diagnostics	uint16	–	R	Magic, layout, EEPROM/register/BRR values + counters
40209	Clear diagnostics	uint16	–	W	Write 0xC1EA clears the baud diagnostic latch

Auxiliary tables

Baud rate index (register 40028)

0	4800 bps
1	9600 bps
2	19200 bps
3	38400 bps
4	57600 bps
5	115200 bps

Reset reason (register 40079)

0	Unknown
1	Power-on / brown-out (POR)
2	Software reset
3	IWDG watchdog
4	External NRST pulse
5	Window watchdog (WWDG)
6	Improper low-power entry
7	Option bytes reload

Modbus exceptions

0x01	Illegal function — function code not supported
0x02	Illegal data address — register outside the map
0x03	Illegal data value — R-only write or out-of-range value

13 Firmware update

The firmware can be updated in the field through three channels. In all cases, the bootloader validates the new image in nine layers before accepting it — including Ed25519 signature verification (RFC 8032).

Channel 1 · via PC (USB-C)

1. Plug the USB-C cable between the device and the PC.
2. In the menu, select FW Update (10) and confirm Via PC.
3. The device reboots into bootloader mode (green LED blinking).
4. On the PC, run the update tool pointing to the serial port and the .aemfw file.
5. Wait for transfer and verification. The device reboots automatically.

Channel 2 · via Modbus RTU network

1. The tool sends the image through the AEMUP tunnel (FC 0x46) on the RS-485 bus.
2. 3-step unlock sequence: writes to 40098, 40099 and 40100 within ≤ 3 s.
3. The device enters bootloader mode and receives the image over the network.

Channel 3 · between units (peer)

1. A donor unit sends its firmware to other units on the RS-485 bus.
2. Start via the FW Update menu (peer option) or register 40150.
3. Follow progress in 40151–40159 (state, %, result, bytes, time).

Anti-brick protection

Before accepting a boot, the bootloader validates the image in nine layers: magic word, version, header CRC, hardware ID, payload size, payload CRC, vector table, end-of-image stamp and Ed25519 digital signature. If any layer fails, the unit stays in update mode waiting for a valid image — it never becomes inoperative.

Warning: Warning: interrupting an update may force the unit to stay in bootloader mode. The unit is not bricked, but a new update session is required. Ensure stable power before starting.

14 Diagnostics and troubleshooting

The About screen (item 19) gathers boot counters, last reset reason, watchdog state and fault telemetry. The same data is available via Modbus in 40070–40119.

SYMPTOM	LIKELY CAUSE	SOLUTION
`Display does not turn on`	Power absent or reversed polarity	Check the voltage (10–30 V DC) and V+ / GND wiring.
`Blank display after boot`	LCD did not initialise	Power cycle the device.
`Modbus master no response`	A/B swapped, missing GND or wrong baud	Verify A/B and common GND; match master speed to device.
`Intermittent / CRC errors`	Missing termination or bus noise	Install 120 Ω at both ends; route away from EMC sources.
`Two units respond together`	Duplicate Slave ID	Assign distinct addresses via SW2; confirm in 40029.
`!! RTC SET !!`	RTC backup battery depleted	Set date/time in Date/Time (12); replace the battery.
`Inaccurate reading`	Channel out of calibration	Run the channel calibration via Calibration (09).
`Alarm will not silence`	Fault still active	The cause must clear before acknowledgement.

15 Summary specifications

Analog channels	8 × 0–60 V DC · ±1% FS
Temperature	NTC 10 kΩ · −10 to +70 °C
Digital inputs	8 × opto-isolated · 5 kV AC rms
Communication	RS-485 Modbus RTU · 4800–115200 bps
Power supply	10 to 30 V DC · < 2 W
Interface	16×4 LCD · 3 keys · RGB LED · buzzer
MCU	STM32G0B0RE (Cortex-M0+) · FreeRTOS
Compliance	UL94 V-0 · IEC 62443-4-2 SL2 (target)
Operation	−10 to +70 °C · 5–95% RH non-condensing
Mechanical	145 × 90 × 40 mm · 345 g · 35 mm DIN

TECHNICAL SUPPORT AND CONTACT

For application, integration or after-sales questions, contact LRI.

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