SRS RIGGING

AHD-DV

INSTRUCTION MANUAL

THIS DOCUMENT APPLIES TO ALL

AHD SERIES DIRECT VOLTAGE MOTOR CONTROLLERS

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IMPORTANT NOTE

The user is required to read and understand this manual before installing, operating, or servicing the device. Failure to follow the specified procedures and safety guidelines may result in equipment malfunction, personal injury, or hazardous situations. The manufacturer assumes no responsibility for damage or injury caused by negligence, improper handling, or failure to comply with the instructions provided. Under such circumstances, all associated risks and liabilities fall to the operator.

REPAIR & SERVICE

In the event of equipment malfunction, please contact our Technical Support Department at rma@srs-group.com, or reach out to the authorised distributor from whom the equipment was purchased. To ensure optimal performance and extend the service life of the device, only use replacement parts supplied or approved by the manufacturer.

For inquiries related to the functionality, operation, or applications of this equipment, please contact your local distributor or email us at sales@srs-group.com.

IMPORTANT NOTE

When contacting the manufacturer or local distributor, please provide information found on the sticker on the rear panel. This will ensure swift processing of your request. Thank you!

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1. SAFETY INFORMATION

The following general safety precautions have to be observed during all phases of operation, service, and repair of this equipment. Failure to comply with these precautions or with specific warnings in this manual violates safety standards of design, manufacture, and the intended use of this equipment.

DO NOT OPERATE IN AN EXPLOSIVE ATMOSPHERE!

Do not operate this equipment in the presence of flammable gases or fumes. Operation of any electrical instrument in such an environment constitutes a definite safety hazard.

WATER, MOISTURE, HEAT AND HUMIDITY

Do not operate this equipment near water or in areas with wet floors, also not in high humidity atmosphere where condensation forms on the equipment. It should never be placed near or over a heat register or other source of heated air and it should not be installed or operated without proper ventilation.

MAINTENANCE WORK PRECAUTIONS

Always ensure that the power to the equipment is disconnected before opening the equipment or commencing any maintenance work.

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2. PRODUCT DESCRIPTION

AHD-DV was designed to control up to 24 (depending on the model) electrically compatible direct voltage hoists, either separately or simultaneously. All channels are controlled via switches located on the front panel of the device or a cable remote/pendant.

The device will not function and the red power LED will be on if:

- **!** One phase is missing
- **!** Under- or over-voltage is detected on the circuit
- **!** Wrong voltage system is chosen on the voltage switch (for UniV motor controllers)

The device will not function and the red E-STOP LED will be on if:

- **!** All safety connectors are not plugged
- **!** The motor controller and the hand remote have a different number of channels, and the address of the motor controller is not set up
- **!** E-STOP is engaged on one of the linked devices

All electrical components carry their own individual cSA/UL, CE and comply with European Directives. The components are housed in robust steel 19" rack casing with powder coating. Complete unit complies with the CE according to the Certification of conformity attached to this manual.

2.1. TECHNICAL SPECIFICATIONS

MAINS CONNECTION

- Mains input: AC 400V/AC 208V +-20%, 50/60Hz
- Mains plug: depends on the model

PROTECTION & SAFETY

- Short circuit protection for groups of one or two hoists by automatic C16A circuit breakers
- Mains leakage current protection 30mA/100A
- APA – Automatic Phase Align
- AVM – Automatic Voltage Metering
- ADR – Automatic Digital Reset
- Double mechanical blocking contactors
- E-STOP according to EN 17206
- Momentary GO button

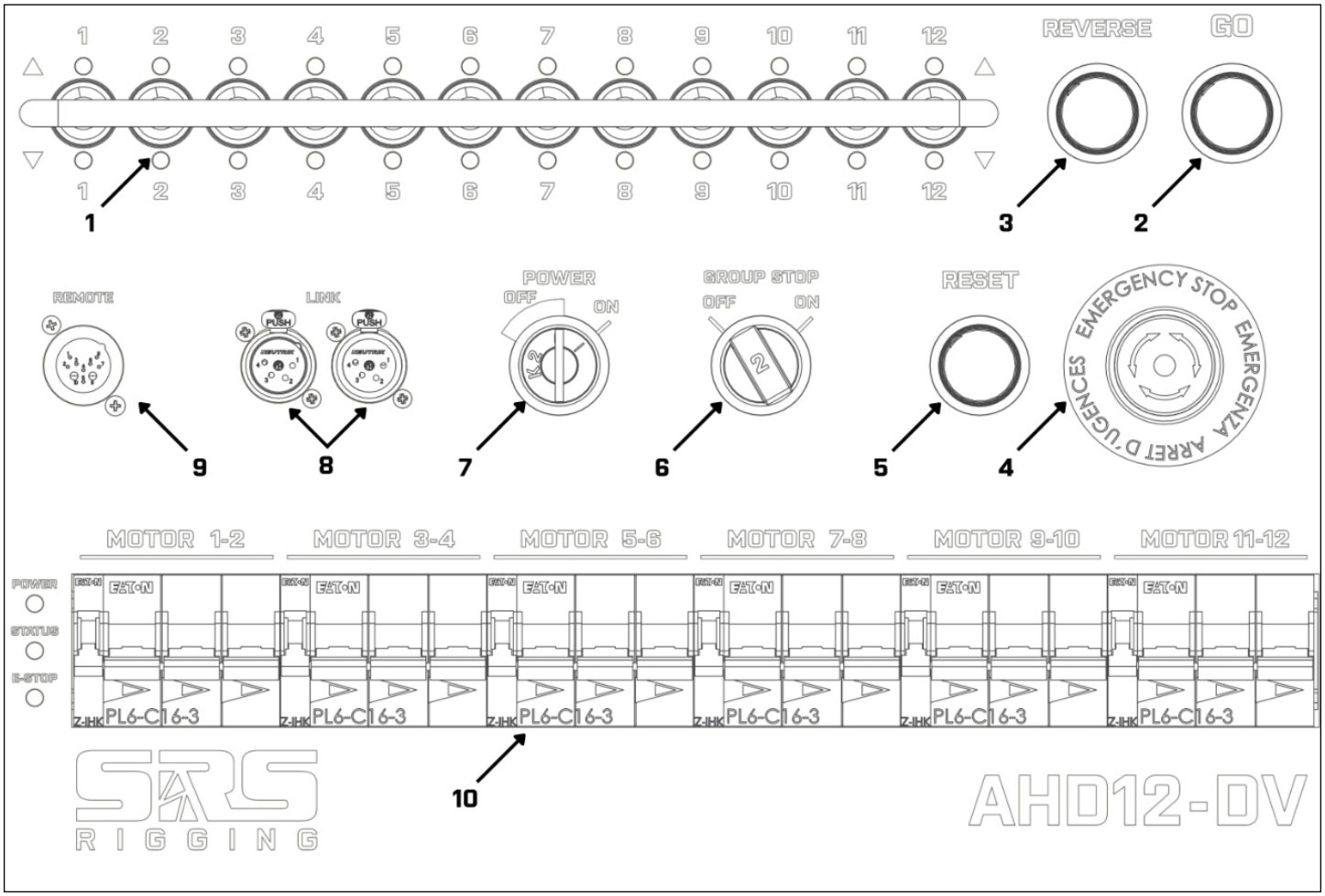
METAL HOUSING

- 3mm steel front panel
- 1.5mm steel housing with powder coating

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3. PRODUCT OVERVIEW

3.1. FRONT PANEL OVERVIEW (exemplified by 945201)



1. DIRECTION SWITCHES
2. GO BUTTON
3. REVERSE BUTTON
4. E-STOP BUTTON
5. RESET BUTTON
6. GROUP STOP SWITCH
7. POWER SWITCH
8. LINK INPUT/OUTPUT
9. REMOTE INPUT
10. C16A MCB

E-STOP LED INDICATION	
YELLOW blinking	local or linked unit awaiting RESET
GREEN	unit after reset, ready to work
RED steady	linked E-STOP engaged
RED blinking	local E-STOP engaged

POWER LED INDICATION	
OFF	power OFF
GREEN	power ON
GREEN blinking	power ON, phases reversed
RED	power failure, check mains

STATUS LED INDICATION	
GREEN	ready to work in AUTO mode
YELLOW	GO is active
RED	direction change in progress

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DIRECTION SWITCHES (1)

Used to select movement direction for each hoist/channel separately. LEDs located next to the switches correspond to & indicate the chosen direction.

GO BUTTON (2)

Used to set the selected channels in motion when the unit is active. Movement continues for as long as the operator holds the button.

REVERSE BUTTON (3)

Used to move all selected hoists in the opposite direction, when pressed together with the GO button.

E-STOP BUTTON (4)

When pressed, the button locks into active (engaged) position and must be rotated clockwise and released to disengage.

RESET BUTTON (5)

Used to reset the E-STOP relay after each emergency stop.

GROUP STOP SWITCH (6)

ON: Trip of any channel breaker or mains GFI will cause E-STOP on all linked & active units;

OFF: Trip of any channel breaker or mains GFI will not cause E-STOP on all linked & active units;

NOTE: to bypass a stuck relay, switch off the corresponding breaker and turn group stop off. The operator should bear all responsibility for operating the motor controller with a disabled safety component.

POWER SWITCH (7)

Used to switch the motor controller on and off.

LINK INPUT/OUTPUT (8)

Used to link multiple AHD units via a 5-pin XLR data cable.

REMOTE INPUT (9)

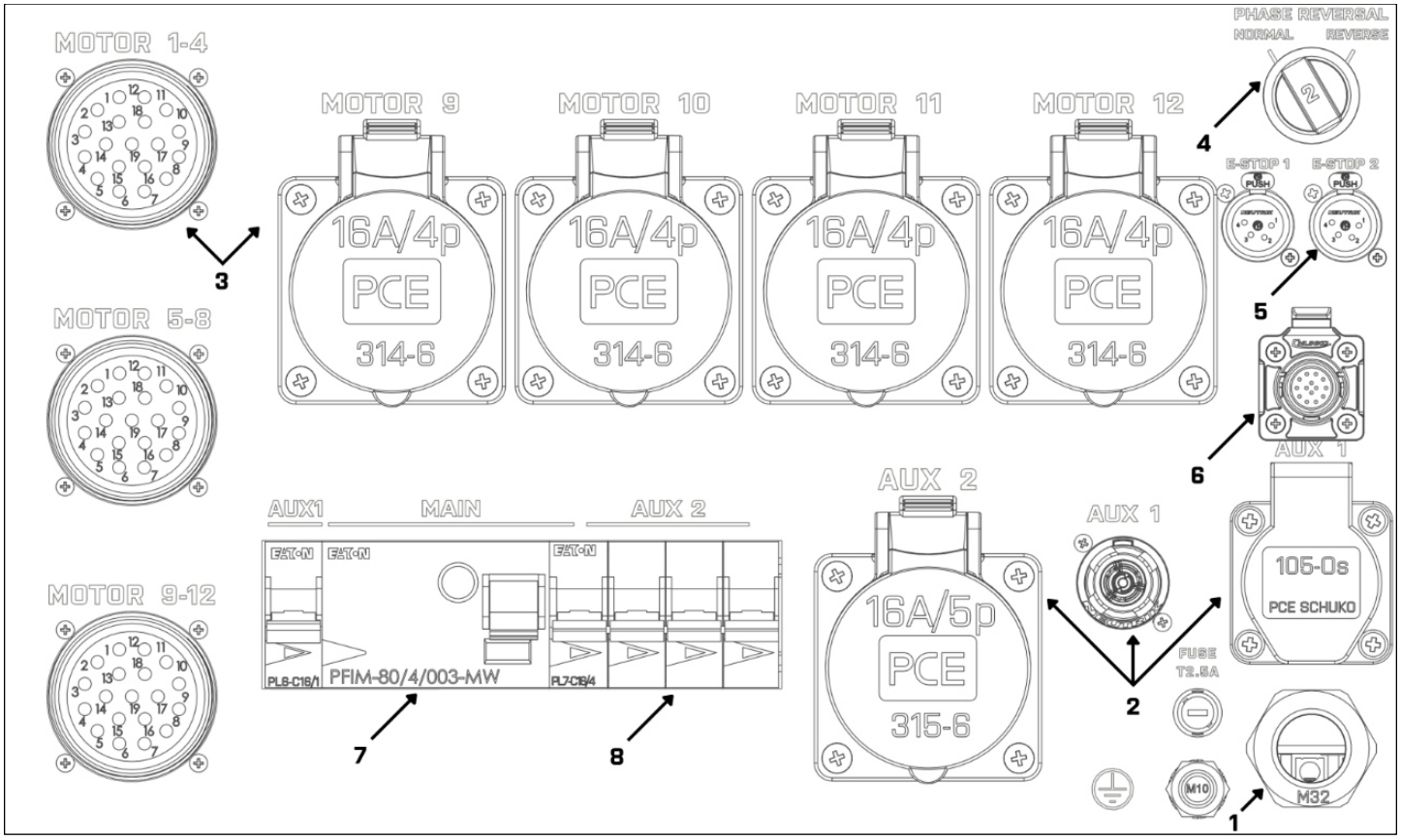
Used to connect a cable hand remote via a 10-pin XLR data cable.

C16A MCB (10)

Used to protect the hoists from over-current, and short circuit. Depending on the motor controller model, one MCB can protect one, two or three outputs. Alternatively, motor starters can also be used for protection.

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3.2. **REAR PANEL OVERVIEW** (exemplified by 945201)



1. MAINS INPUT
2. AUXILIARY OUTPUTS
3. MOTOR OUTPUTS
4. PHASE REVERSE SWITCH
5. E-STOP INPUT
6. SAFE LINK INPUT
7. MAINS RCD
8. AUX MCB

MAINS INPUT (1)

Used to power the device via a CEE32/5 or CEE63/5 cable.

AUXILIARY OUTPUTS (2)

Used to connect any external devices the customer might need. AUX1 is a 3-phase 16A or 32A CEE socket, AUX2 is a single-phase Schuko socket, both types selected by the customer.

MOTOR OUTPUTS (3)

Used to connect the hoists. Please check the wiring diagram on the rear panel for more details.

PHASE REVERSE SWITCH (4)

Used to alternate between 123 and 132 phase sequences to achieve the intended direction of rotation of three-phase motors.

E-STOP INPUT (5)

Used to connect an external E-STOP device.

SAFE LINK INPUT (6)

Used to connect the device to a SAFE BOX meant to create an emergency stop safe link between all the connected devices.

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MAIN RCD (7)

Used to protect the user from electric shock and prevent electrical fires.

AUX MCB (8)

Used to protect the auxiliary outputs from overload and short-circuit.

3.3. E-STOP AND LINKING CONNECTORS

(8) FRONT – LINK INPUT/OUTPUT – Neutrik NC5MAH/FAH

Used to link multiple AHD units via a 5-pin XLR data cable. The linked units can be controlled via GO and E-STOP on a single unit in local operation mode.



PIN	FUNCTION	NOTE
1	Data CMN	Data common
2	Data -	Data minus
3	Data +	Data plus
4	-	Not connected
5	-	Not connected

(9) FRONT – REMOTE INPUT – Neutrik NC10FD

Used to connect a cable hand remote via a 10-pin XLR data cable.



PIN	FUNCTION	NOTE
1	Data CMN	Data common
2	Data -	Data minus
3	Data +	Data plus
4	E2	Safety line 2 OUT
5	E2R	Safety line 2 IN
6	E1	Safety line 1 OUT
7	E1R	Safety line 1 IN
8	-	Not connected
9	DC GND	Power supply -
10	DC PWR	Power supply +

(5) REAR – E-STOP INPUT – Neutrik NC4FAH

Used to connect an external E-STOP. Both safety lines are separate and NC (normally closed).



PIN	FUNCTION	NOTE
1	E1	Safety line 1 OUT
2	E1R	Safety line 1 IN
3	E2	Safety line 2 OUT
4	E2R	Safety line 2 IN

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(6) REAR – SAFE LINK INPUT – CNLINKO BD-20-J14SX-03-401A

Used to connect the device to a SAFE BOX meant to create a SIL3-compliant safe link between all the connected devices.



PIN	FUNCTION	NOTE
1	Data CMN	Data common
2	E1	Safety line 1 OUT
3	E1R	Safety line 1 IN
4	E2	Safety line 2 OUT
5	E2R	Safety line 2 IN
6	PE	Shield
7	NO1	Dry contact 1
8	NO1	Dry contact 1
9	NO2	Dry contact 2
10	NO2	Dry contact 2
11	Data -	Data minus
12	Data +	Data plus
13	-	Not connected
14	-	Not connected

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4. OPERATION AND CONTROL

The hoists connected to the motor controller can be controlled either individually or simultaneously using the GO button, located on the front panel, or the cable remote. If required, up to 17 AHD-series units can be linked together to create a bigger system.

4.1. THE STARTUP PROCEDURE

1. Connect the power plug to an AC 400V ±20% power supply.
2. On the front panel, turn the key switch to the ON position. The power LED should light up green. If not, please check p.6 for further instructions.
3. Connect the chain hoists to the output sockets.
4. Press the E-STOP button, turn it clockwise to release, then press the RESET button.
5. The LEDs for POWER, STATUS, and E-STOP on the front panel should be lit up green. If not, please check p.6 for further instructions.
6. Set the directional switch corresponding to each chain hoist into one of the following positions:

   UP – switch in the upper position; green LED on;

   STAY – switch in the middle position; LEDs off;

   DOWN – switch in the lower position; red LED on;
7. Holding the GO button will set the motors in motion.
8. Releasing the GO button will stop all movement of motors.

When the device is not in use, it is highly recommended to turn it OFF using the key switch, located on the front panel.

4.2. THE RESET PROCEDURE

1. Press the E-STOP button, turn it clockwise to release, then press the RESET button.
2. The GO button should start blinking. This indicates that the controller is ready to go.

* If the E-STOP button is already engaged, turn clockwise to release, then perform steps 1 and 2 again.

* The reset procedure checks correct functioning of all components. If the RESET button does not light up after E-STOP is released, one or more components are faulty or damaged.

4.3. USING REVERSE GO

1. Press the REVERSE button first, followed by the GO button. Keep holding both buttons to keep the motors in motion.

NOTE: When either of the buttons is released, the operator needs to press both buttons again as described above.

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4.4. THE LINKING PROCEDURE

1. Connect the two motor controllers via an XLR cable through the link/remote ports. All channel LEDs will start blinking.
2. Press the GO button on the desired motor controller to select the master unit.
3. Perform the reset procedure on the selected unit.
4. Holding the GO button on the master unit will activate all linked motor controllers.

4.5. CONNECTING A CABLE HAND REMOTE

1. Connect the hand remote via an XLR cable through the remote port.
2. Wait for ~5 seconds, then press & release the E-STOP button on the hand remote.
3. Holding the GO button on the hand remote will activate all linked motor controllers.

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5. WARRANTY

This unit is covered by a two-year manufacturer's warranty. For information regarding extended warranty terms, please contact the manufacturer at sales@srs-group.com.

The warranty applies exclusively to original factory-installed components and ensures their correct operation under normal usage conditions.

The warranty shall be void under the following circumstances:

- **!** Any original component has been tampered with or modified without authorisation;
- **!** The equipment is operated outside of its intended or specified usage conditions;
- **!** The electrical power supply does not meet required specifications;
- **!** Mechanical damage is present, including damage caused by overload or improper use.

ADDRESS

SRS Group s.r.o.
Pri majeri 4
831 07 Bratislava
Slovakia

CONTACT DETAILS

Phone: +421 2 32661800
Email: sales@srs-group.com

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DECLARATION OF CONFORMITY

According to the specification of Machinery Directive 2006/42/EC, Annex II A:

Name of manufacturer:	SRS Group s.r.o.
Registered seat:	Pri majeri 4 831 07 Bratislava Slovakia

Declares that the product

Type: AHD Series Direct Voltage Motor Controller

Name: 945XXX / AHDxx-DV-XXX

Year of construction: 2025

Corresponds to the following harmonised standards:

Safety:	EN 60065:2014 EN 60204-1:2019 EN 13850:2015 EN 12100:2010
EMC:	EN 55103-2:2010

And in compliance with the following requirements:

Machine directive:	2006/42/EC
Low Voltage directive:	2014/35/EU
Electromagnetic compatibility directive:	2014/30/EU

SRS Group s.r.o.
Pri majeri 4
831 07 Bratislava
Slovak Republic
DIČ: 2022726629
IČO: 44529433
DIC: 2022726629

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