



Type(s)
 Project
 Date
 Notes

GENERAL INFORMATION

The Elaho Relay Panel is a control-oriented power center built with today and tomorrow's lighting loads in mind. It supports up to 24 relays with integral branch breakers, power-usage reporting and sophisticated control inputs. With built-in station and sensor support via contact input, DMX and Ethernet connectivity, and optional 0–10 V dimming or DALI output, Elaho Relay Panels easily integrate into a broad range of systems and applications.

APPLICATIONS

- Theaters
- Schools
- Houses of worship
- Conference centers
- Retail shops and restaurants

FEATURES

- Main Feed relay panel with support for 277/480 V or 240/415 V three-phase four-wire plus ground
- 24-position relay panel with support for 1-pole relays
- 30-position breaker subpanel with support for 1-pole breakers
- DMX and Ethernet (sACN) control of preset and sequence playback
- Local user interface provides:
 - Panel configuration
 - Preset and sequence programming and playback
 - Individual channel control
- Built-in Ethernet port
- Available 0–10 V, contact input, and DALI control cards
- UL 924 Listed emergency control bypass contact input

ORDERING INFORMATION

Standard Relay Units

MODEL	DESCRIPTION
ERPA-24R1-24B1-ML3P	Elaho Relay Panel with 24 single-pole relays, 24 single-pole breakers; 277/480 V* three-phase four-wire plus ground main-lug input

Note: For non-standard model numbering see page 6.

*Also rated for use at 240/415 V

Breaker options

ERP-150A-3P 14kA MCB	Elaho Relay Panel main circuit breaker option kit; 277/480 V 3 pole 150 A breaker with 14 kA SCCR rating
ERP-200A-3P 14kA MCB	Elaho Relay Panel main circuit breaker option kit; 277/480 V 3 pole 200 A breaker with 14 kA SCCR rating
ERP-200A-3P 65kA MCB	Elaho Relay Panel main circuit breaker option kit; 277/480 V 3 pole 200 A breaker with 65 kA SCCR rating

Door Options

ERPA-FMD	Flush-mount door for 277 V Elaho Relay Panel
ERPA-SMD	Surface-mount door for 277 V Elaho Relay Panel

Accessories

ERP-LVD	0–10 V Dimming Control Option
ERP-DALI	DALI Control Option (broadcast only)
ERP-CI	Contact Input Option
ERP-RTO	Ride-Thru Option

SHORT-CIRCUIT CURRENT RATING AND LUG SIZING

OPERATING VOLTAGE	MCB OPTION	SCCR RATING	INPUT LUG WIRE SIZE
All	Main Lug only	14 kA	4 AWG–300 kcmil
277/480 V	150 A, 200 A	14 kA	6 AWG–350 kcmil
	200 A	65 kA	
GND/Neutral	NA	NA	4 AWG–300 kcmil
Relay Out	NA	NA	20–6 AWG
Load GND	NA	NA	6–14 AWG
Load Neutral	NA	NA	Small hole: 14–6 AWG Large hole: 3–1/0 AWG

Note: Main feed lugs accept copper or aluminum wire; load terminals accept copper wire only

SPECIFICATIONS

REGULATORY AND COMPLIANCE

- cULus Listed
- UL 508 Listed
- UL 924 Listed
- Complies with ANSI E1.11 DMX512-A standard
- Complies with ANSI E1.31 streaming ACN standard

USER INTERFACE

- Graphical display with LED backlight
- Button interface with:
 - 0-9 number buttons
 - Up, down, back and enter navigation buttons
 - "Light bulb" test button for local activation of preset, sequence and set level overrides
- USB interface for upload of setup and software updates

MECHANICAL

- Enclosure constructed of 16-gauge steel finished in black, fine-textured, scratch-resistant powder coat paint
- Door options available for surface- or recess-mount applications.
 - Flush-mount door extends 1 inch beyond all panel edges to hide wall cutout
- Removable outer panel includes integral locking door to limit access to electronics, breakers and local relay overrides
- Full front access with no side clearance required
- Removable covers for access to Class 1 and Class 2 wiring

ELECTRICAL

- Main feed power input supports 277/480 V or 240/415 V
- Separate wiring chambers for Class 1 and Class 2 terminations
- Max input current: 200 A
- Main circuit breaker support: 150 A and 200 A
- Short circuit rating: 14,000–65,000 A symmetrical (See chart on page 2)
- 20 A branch circuit breakers standard; 80% rated
- Inrush-pulse tolerance: 8–10.5 times rated current for half-cycle at 60 Hz

ENVIRONMENTAL

- Thermal: 0°C to 40°C (32° to 104°F) operating temperature
 - Relays (all) - 39.28 BTU/hr
- Humidity: 5%–95% non-condensing

RELAY RATINGS

- 20 A Ballast (HID)
- 16 A Electronic Ballast
- 20 A Tungsten
- 14 A Motor Load
- Isolation: 4000 V RMS
- State: Latching; mechanically held
- Life:
 - 100,000 cycles at full resistive load
 - 30,000 cycles motor, inductive, or tungsten
- Current-reporting accuracy: +/- 5% of connected load

CONTROL ELECTRONICS

- Input: 120–277 V (+/-15%), 50/60 Hz, <16 A
- Multi-tap transformer terminals accept up to 12 AWG wire
- Control wiring terminations:
 - Control terminals accept maximum of 12 AWG wire
 - Control wiring exiting the panel are Class 2
 - All control terminations utilize removable connectors

SPECIFICATIONS

FUNCTIONAL

- System-Wide control
 - DMX or sACN input
 - Per-circuit patching
 - Per-circuit threshold
 - 0-200 prioritization
 - Configurable data loss behavior:
 - Play preset; Hold last look; Wait and fade
 - UL 924 emergency lighting with load shedding
- Application/Space segmented Control
 - Space segmenting: up to 16 spaces per panel
 - Power Sequencing: one 16-step sequence per space
 - Presets: up to 64 per space configurable via local UI
 - Zone control: up to 16 zones per space
- Monitoring Per Circuit:
 - Breaker-trip notification
 - Relay state
 - Current draw, phase voltage, and energy usage
- Monitoring Per Space:
 - Active sequences, presets, and clock events
 - Zone levels

ACCESSORIES

0–10 V Dimming Option

- 24 outputs of 0–10 V sink dimming control rated for 100 mA per output

Contact Input Option

- 24 dry contact inputs for direct control of relays

DALI Control Option

- 24 control loops of broadcast DALI control
- Each loop supports up to 64 ballasts
- External DALI power supply required

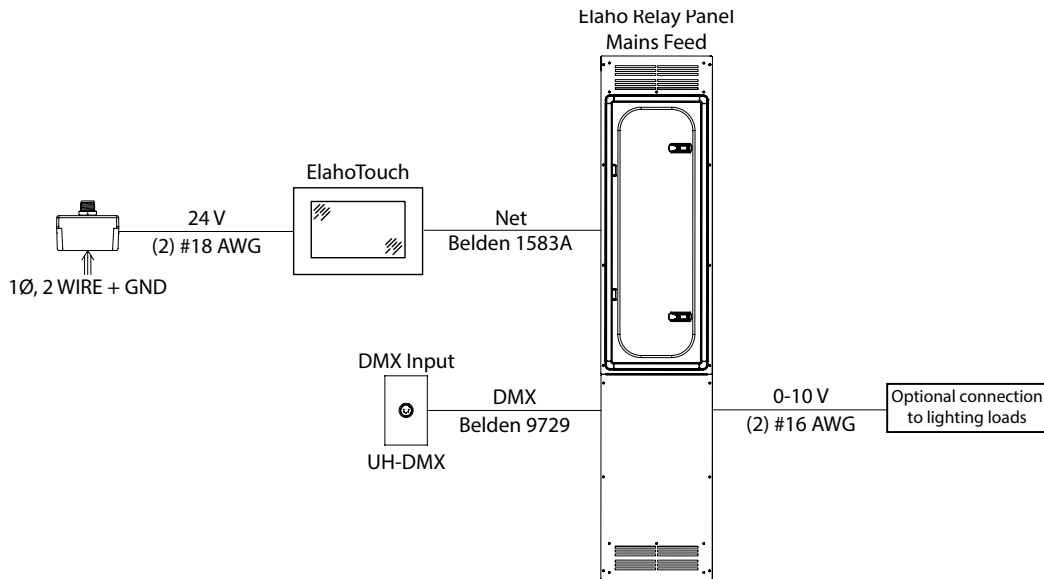
Ride Thru Option

- Short-term power backup of control electronics
- Automatically engages when power is lost
- Recharges during normal power operation

Tamper-proof Hardware Kit

- Special screw heads prevent access to panel interior

SAMPLE RISER DIAGRAM



ORDERING INFORMATION

Non-Standard Model Numbering

	BASE MODEL	1-POLE RELAY	1-POLE BREAKER
MODEL #	ERPA-	#R1/	-#B1/
MAX QTY	1	24	29

Power and Control Options

	FEED TYPE	PHASE	LOW VOLTAGE DIMMING	CONTACT INPUT	RIDE-THRU OPTION
MODEL #	-ML (default), -MCBX/Y/	3P	-LVD, -DALI	-CI	-RTO
NOTES	X - MCB amp rating Y - MCB SCCR	277/480 V (or 240/415 V) 4W+G	1 per panel, either -LVD or -DALI	1 per panel	1 per panel

EXAMPLES:

ERPA-12R1-12B1-ML3P

Three-phase 277/480 V panel with main lugs, twelve 20 A single-pole relays, and twelve 20 A single-pole breakers

ERPA-24R1-29B1-MCB200/65/3P-LVD-CI-RTO

Three-phase 277/480 V panel with a 200 A, 65kA SCCR main circuit breaker, twenty-four 20 A single-pole relays, twenty-nine single-pole breakers, a 0–10 V Dimming Control Option Card, a Contact Input Option Card, and a Ride-Thru Option



Main Circuit Breaker (optional)

Branch circuit breakers:

- 29 available positions per panel
 - 30-position panel with one position dedicated to control processor power
- Feed up to 24 relays
 - Multiple relays can be fed from a single breaker
- Breaker positions may be used to provide hot power circuits up to 20 A

Relays:

- 24 positions per panel
 - Relays use one position each

Option Cards:

- Two slots for 0–10 V Dimming Control, DALI Control, and Contact Input Option Cards
 - Maximum two of the above Option Cards per panel
 - Each Option Card provides 24 control circuits
 - Each group of 24 control circuits may be assigned to a single low voltage dimming control option card (0–10 V or DALI) and/or to a Contact Input Option Card
- Ride-Thru Option mounts behind the control processor (one per panel)

ERP Option Card Combinations

0-10 V CARD	-
0-10 V CARD	CONTACT CARD
DALI CARD	-
DALI CARD	CONTACT CARD
CONTACT CARD	-

PHYSICAL

Elaho Relay Panel Dimensions

MODEL	HEIGHT		WIDTH		DEPTH*	
	mm	in	mm	in	mm	in
ERPA	1,418	67.5	508	20.0	155	6.1

*Note: Depth is 183 mm (7.2 in) with door attached

Elaho Relay Panel Weights

MODEL	WEIGHT		SHIPPING WEIGHT	
	kg	lb	kg	lb
ERPA no relays or breakers	44	97	49	107
ERPA w/ relays & breakers	59	130	66	145

