

Elaho Power Control Series

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

ERPA-MB150A14K	Main Breaker; 277/480 V; 150 A; 14 kA SCCR
ERPA-MB200A14K	Main Breaker; 277/480 V; 200 A; 14 kA SCCR
ERPA-MB200A65K	Main Breaker; 277/480 V; 200 A; 65 kA SCCR

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: 0–40°C (32–104°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 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

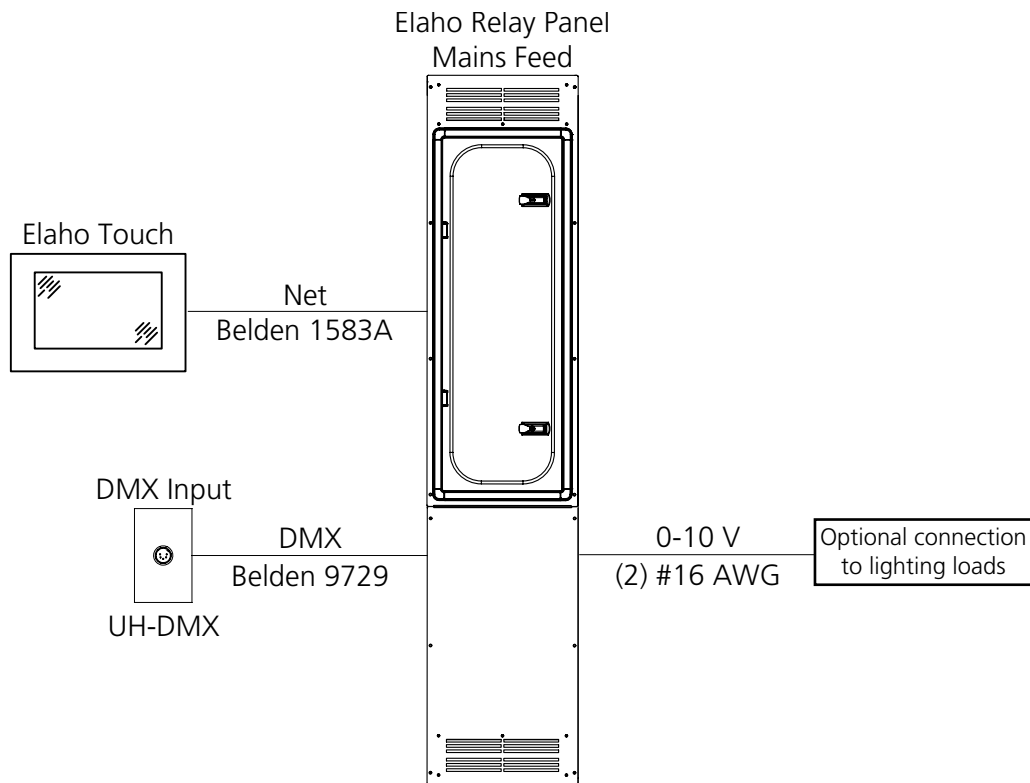
Ride Thru Option

- 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 0-10V 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	
	in	mm	in	mm	in	mm
ERPA	67.50	1,418	20	508	6.08	155

*Note: Depth is 6.08 in with door attached

Elaho Relay Panel Weights

MODEL	WEIGHT		SHIPPING WEIGHT	
	lb	kg	lb	kg
ERPA no relays or breakers	97	44.0	107	48.5
ERPA w/ relays & breakers	130	59.0	145	65.8

