



Type(s)

Project

Date

Notes

GENERAL INFORMATION

The Elaho Relay Panel Feedthrough is a control-oriented switching and power control built with today and tomorrow's lighting loads in mind. Freely mix normal and emergency 120–347 V single-pole loads and either 120/208 V or 277/480 V double-pole loads in the same enclosure. 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

- Houses of worship
- Ballrooms and convention centers
- Multi-purpose rooms
- Arenas and stadiums
- Entertainment facilities with DMX control
- Retrofits for lighting systems with existing breaker panels

FEATURES

- 120–347 V single-pole and 120/208 V or 277/480 V double-pole switching
- Up to 48 relays per panel
- Switches all relays at once or with configurable delay
- Mechanically latching relays fully rated for 20 A
 - Single-pole relay kits fed by 120 V with 20 A branch breakers are suitable for plug load control
- Manual ON/OFF override with position indication
- Relays support field installation and replacement
- 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
- UL924 Listed emergency control bypass with load shedding
 - Voltage barrier for normal/emergency mixed use panels

ORDERING INFORMATION

Standard Model Numbers

MODEL	DESCRIPTION
ERP24-FT	Elaho Relay Panel Feedthrough 24-way panel without relays
ERP24-FT121P	Elaho Relay Panel Feedthrough 24-way panel with twelve 20 A single-pole relays
ERP24-FT241P	Elaho Relay Panel Feedthrough 24-way panel with twenty-four 20 A single-pole relays
ERP48-FT	Elaho Relay Panel Feedthrough 48-way panel without relays
ERP48-FT481P	Elaho Relay Panel Feedthrough 48-way panel with forty-eight 20 A single-pole relays
ERP48-FT482P	Elaho Relay Panel Feedthrough 48-way panel with forty-eight 20 A 208 V double-pole relays

Note: Optional voltage divider available for use of both normal and emergency circuits in a single panel; where allowed by local code.

Accessories

ERP-FT-1PRK	120–347 V Single-Pole, Single-Space Relay Kit
ERP-FT-2PRK	120/208 V Double-Pole, Single-Space Relay Kit
ERP-FT-2P480RK	277/480 V Double-Pole, Double-Space Relay Kit
ERP-FT-LVD	0–10 V Dimming Control Option
ERP-FT-DALI	DALI-Control Option (broadcast only)
ERP-FT-CI	Contact-Input Option
ERP-FT-RTO	Ride-Thru Option
ERP-FT-VB	Voltage-Barrier Kit
ERP-FT-RMW	19 in Rackmount Kit (15U)
ERP-FT-TPH	Tamper-proof Hardware Kit with tool

SPECIFICATIONS

REGULATORY AND COMPLIANCE

- cULus Listed
- UL508 Listed
- UL924 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

- Panel consists of enclosure, covers with locking doors, and internal subpanels
- Enclosure constructed of 16-gauge steel finished in black, fine-textured, scratch-resistant powder coat paint
- Removable conduit panels on top, bottom and sides
- Full front access with no side clearance required
- Removable covers for access to Class 1 and Class 2 wiring
- Locking doors allow controlled access to manual override switch of each relay and Class 2 wiring only
- All low-voltage wiring is physically separated from AC by a mechanical barrier
- Removable subpanels containing the electronics and relays can ship separately – contact Echoflex

ELECTRICAL

- Discrete feed per circuit supports mixed voltage in a single panel
- Single panel for up to 48 relays, populated in any combination of single- or double-pole
- Separate wiring chambers for Class 1 and Class 2 terminations
- Optional voltage barriers install without tools between relays for separation of normal and emergency circuits

RELAY RATINGS

- 20 A 347 V General Purpose
- 20 A 347 V Ballast (HID)
- 20 A Tungsten
- Motor Loads:
 - 0.5 HP @ 120 V
 - 1.5 HP @ 240/277 V
- SCCR: 18,000 A @ 277 V (1P); 5,000 A @ 277 V (2P & 480)
- Inrush: 2000 A (1P only)
- Isolation: 2,500 VRMS
- State: Latching
- Relays are mechanically held
- Life: 60,000 operations at full load
- Terminal: Accepts 14-10AWG copper wire

ENVIRONMENTAL

- Thermal: 0°C to 40°C (32°F to 104°F) operating temperature
 - 20 A relay - 60 BTU/hr (estimated)
- Humidity 10%–90%, non-condensing

SPECIFICATIONS

CONTROL ELECTRONICS

- Input: 120 or 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

FUNCTIONAL

- Relay modes: Normal (priority/HTP), latch-lock or last-action
- 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 which can be used to:
 - Trigger presets and sequences, which will play at the priority configured for architectural sources, or;
 - Directly control one or more outputs. The priority of these outputs is configurable. If nothing is configured, the last action takes precedence

DALI Control Option

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

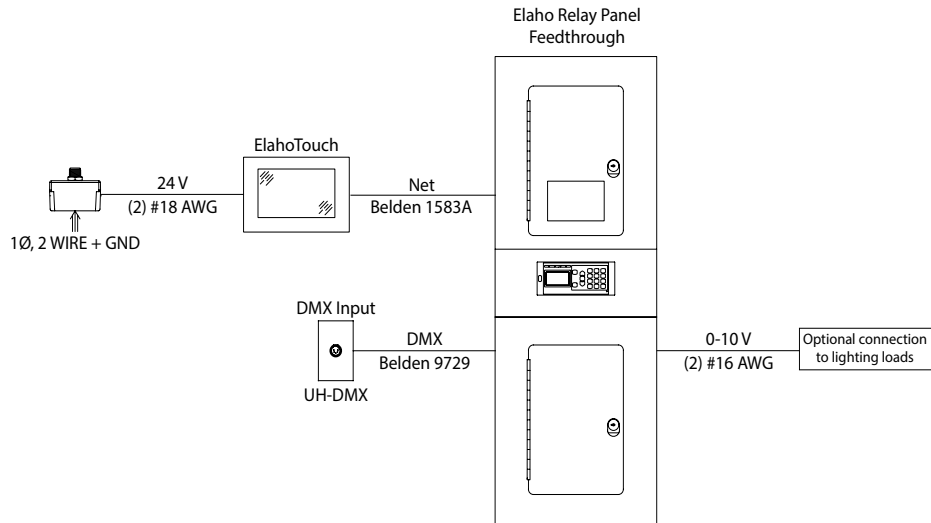
Ride Thru Option

- 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 120-347 V	2-POLE 120/208 V	2-POLE 277/480 V	LOW VOLTAGE DIMMING	CONTACT INPUT	RIDE-THRU OPTION
MODEL #	ERP24-FT- OR ERP48-FT-	#1P/	#2P/	#480	-LVD, -DALI	-CI	-RTO
MAX QTY	1	24 or 48	24 or 48	12 or 24	See chart below	See chart below	1

EXAMPLES:

ERP24-FT-191P-RTO

Twenty-four position panel with nineteen 20 A single-pole 120-347 V relays and a Ride-Thru Option

ERP48-FT-241P/242P

Forty-eight position panel with twenty-four 20 A single-pole 120-347 V relays and twenty-four 20 A double-pole 120/208 V relays

ERP48-FT-241P/122P/6480-LVD-CI-RTO

Forty-eight position panel with twenty-four 20 A single-pole 120-347 V relays, twelve 20 A double-pole 120/208 V relays, six 20 A double-pole 277/480 V relays, a 0–10 V Dimming Control Option, a Contact Input Option, and a Ride-Thru Option



Relays:

- 24 or 48 positions per panel
 - 120-347 V single-pole relays use one position
 - 120/208 V double-pole relays use one position
 - 277/480 V double-pole relays use two positions

Options 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)

ERP24-FT OPTION CARD COMBINATIONS

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

ERP48-FT OPTION CARD COMBINATIONS

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

PHYSICAL

ERP-FT Relay Panel Dimensions

MODEL	HEIGHT		WIDTH		DEPTH	
	mm	in	mm	in	mm	in
ERP24-FT	666	26.3	435	17.2	157	6.2
ERP48-FT	1,195	47.1	435	17.2	157	6.2

ERP-FT Relay Panel Weights

MODEL	WEIGHT		SHIPPING WEIGHT	
	kg	lb	kg	lb
ERP24-FT	20.5	45	20.9	46
ERP48-FT	36.8	81	40.8	90

