Standard Power and Control Panels for Heat Tracing EL-PCP

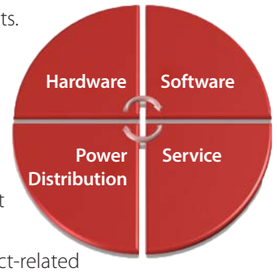
eltherm®

Measurement, Monitoring, Control from a **Single Source**

eltherm offers a wide range of state-of-the-art control and monitoring technology, meeting high demands on quality, accuracy, safety, energy-saving and reliability in long-term use.

- Standard power and control panels
- Project and custom-engineered control systems
- Engineered and designed solutions
- Installation and commissioning
- Test, inspection and maintenance

predefined functions and components. Apart from standard configurations, they can also be adapted, designed, planned and custom-engineered to meet specific requirements:



- Power and control panels modified to customer and project requirements.
- Engineering design to offer project-related solutions from power distribution to complete control systems for industrial plants and facilities.
- Software solutions with TRACE-VISION® and integrated basic and SMART controller interfaces.

The eltherm promise: a single source for all your power and control requirements - from standard applications all the way to custom-engineered solutions for specific requirements.

Custom-engineered solutions:
Standard power and control panels are equipped with

Important information
Products marked with the ⟨Ex⟩-symbol can be used in hazardous areas. Temperatures are the maximum permissible exposure temperatures. Our project engineers will be glad to assist you to design and dimension electrical heating systems. Furthermore, please note:

- All products must be connected and commissioned by a qualified electrician.
- All applicable local electrical and safety regulations must be observed.
- To maintain a constant temperature we recommend the use of a temperature control unit.
- According to EN 62395-1, respectively EN 60519-10, residual current devices (RCD's) must be used to separate electrical heating from the mains and to prevent damages.
- Specifications in this catalogue are subject to change
- We reserve the right to amend errors and alter technical data.

Refer to information on our comprehensive product portfolio:


Trace heaters


Heated Hoses


Heated Mats and Jackets


Custom-engineered Heat Tracing


Measurement and Control

eltherm **Standard**
Power and Control Panels

Modular, cost-optimised, easy to plan and fast to install

Standard eltherm power and control panels provide cost-effective power distribution, monitoring and control for heat tracing circuits. They cover the majority of applications in industrial facilities, oil and gas, power, petrochemical and chemical plants.

- Cost effective
- Safe and reliable

Standard power and control panels are configured for:

- Application in non hazardous areas
- Trace heating in hazardous (ex) areas, where the control panels are located in non-hazardous areas

Advantages of standard power and control panels

- Modular design
- Easy planning and design
- Simple and fast to install and start up
- Proven reliability and quality
- Reduced time and effort
- Short delivery times

Power and Control Panels for Heat Tracing in **non Hazardous** Areas

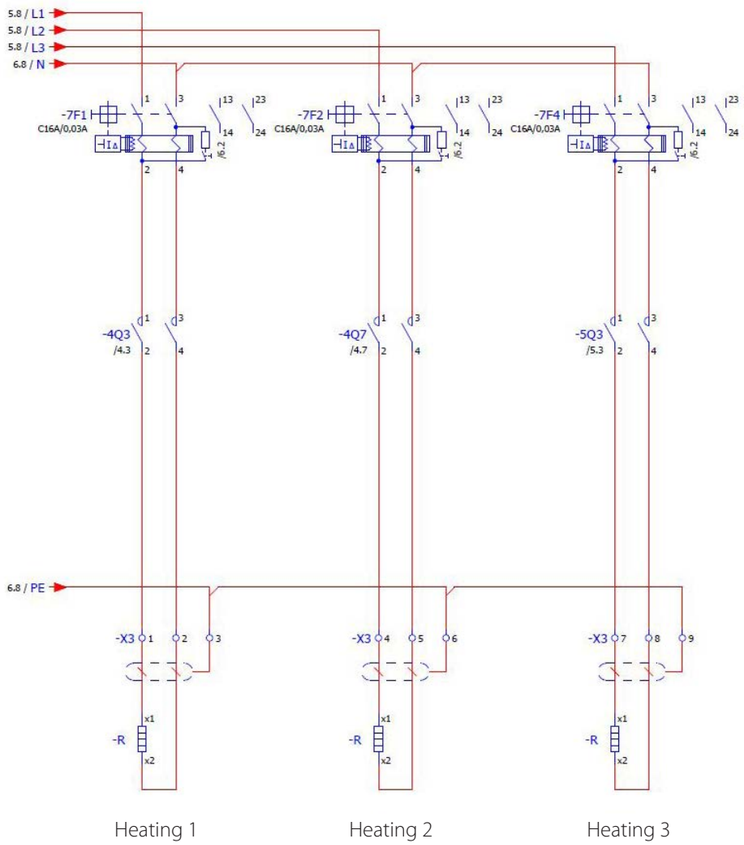
These modular eltherm power and control panels cover most standard applications in non hazardous areas and are configured for 1 to 15 heating circuits.

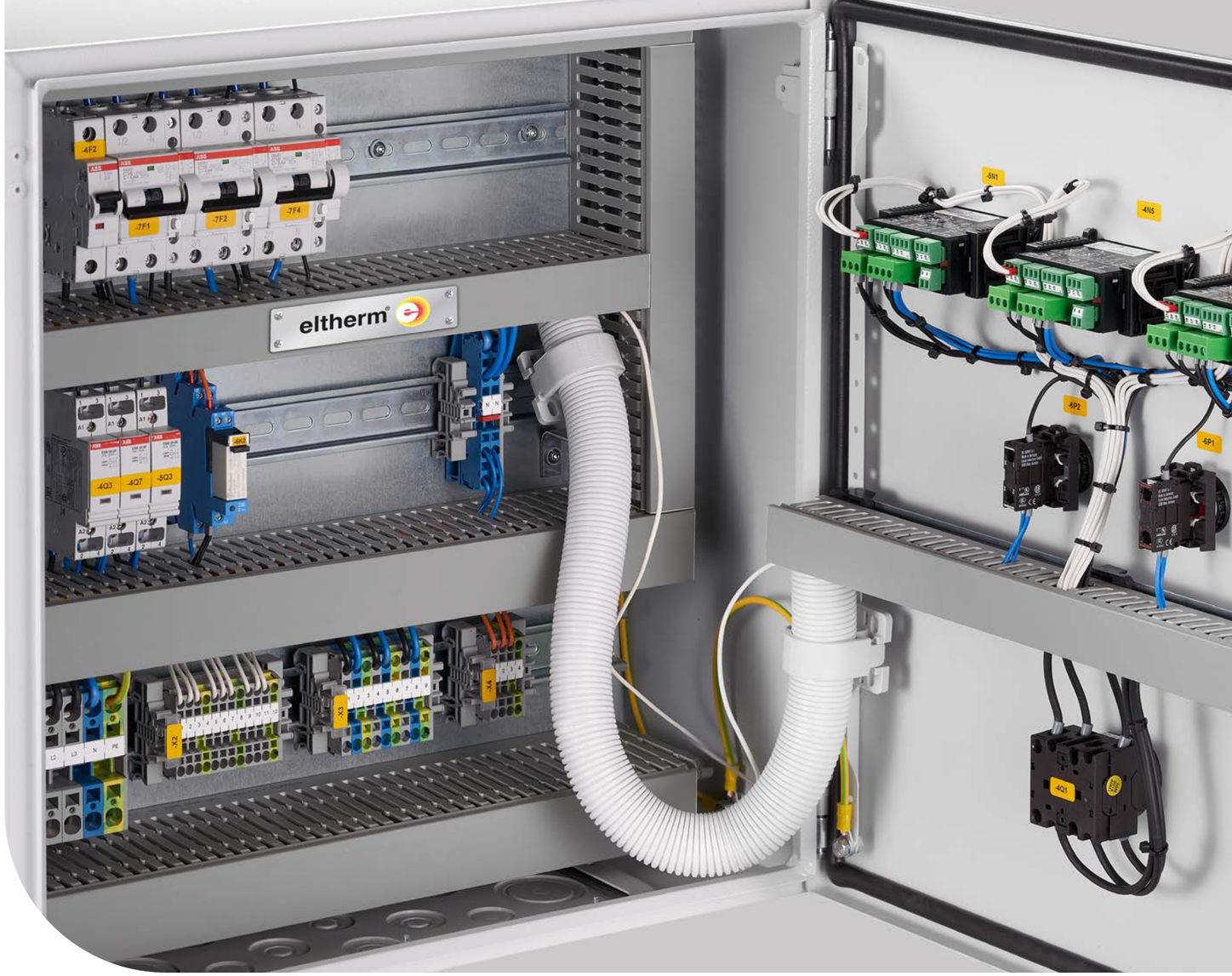
Standard power and control panels can be modified to meet special requirements.

Areas of use

- Trace heating circuits in non hazardous areas
- Power and control panels located outside the hazardous area

Circuit Diagram





Type EL-PCP, single and 3 phase, 1 to 15 heating circuits

Standard equipment (example):

- 1x main switch 20A, 1 terminal
- 1x circuit breaker B6A, 1 terminal
- 1x signal lamp
- 1x signal lamp, red (error)
- 1x relay (error 1 W. isolated)

Standard equipment per heating circuit (example):

- 1x temperature controller ELTC-21

Technical Data

Design and Functions

Cable gland	Plastic cable gland plate with metric perforations
Standard:	EN 62395-2:2013; IEC 62395-2:2013
Operating range ELT-GP2	0 bis +45 °C
Operating range ELTC-21	-25 bis +55 °C
Operating range ELTC-41	-25 bis +55 °C
Rated voltage	230/400 V, 50/60 HZ
Protection class	I
Type of protection acc. to EN 60529	IP55
Enclosure	steel, powder-coated RAL 7032

Standard Power and Control Panels for non hazardous areas

Type	Heating single phase, 230 V	Heating 3 phase, 230/400V/3Ph/N/PE	Heating 3 phase, 230/400V/ 3Ph/N/PE,Y/ΔY/Δ	Heating 3 phase 230/400V/3Ph/N/ PE, Y/Δ, non Ex, R/OT/OTY/Δ	Ref. No.	Heating circuits	Controller	No. of controllers	OT	No. of OT	Fuse	Main switch	Circuit breaker	Terminals	Power contactor	Power output P_{max}	Dimensions HxWxL (mm)
EL-PCP-1Ph-2-1	■				0640030	1	ELTC-21	1			25A	20A	16/0,03A	2	4kW	3680	300x300x210
EL-PCP-1Ph-2-2	■				0640031	2	ELTC-21	2			32A	32A	16/0,03A	2	4kW	2875	380x380x210
EL-PCP-1Ph-2-1	■				0640032	1	ELTC-41	1			25A	20A	16/0,03A	2	4kW	3680	300x300x210
EL-PCP-1Ph-2-2	■				0640033	2	ELTC-41	2			32A	32A	16/0,03A	2	4kW	2875	380x380x210
EL-PCP-1Ph-2-1	■				0640034	1	ELT-GP2	1			25A	20A	16/0,03A	2	4kW	3680	380x380x210
EL-PCP-1Ph-2-2	■				0640035	2	ELT-GP2	2			32A	32A	16/0,03A	2	4kW	2875	380x380x210
EL-PCP-1Ph-2-1	■				0640036	2	ELT-GP2	2			32A	32A	16/0,03A	2	4kW	2875	500x500x210
EL-PCP-3Ph-2/3-3		■			0640040	3	ELTC-21	3			25A	20A	16/0,03A	2	4kW	3680	500x500x210
EL-PCP-3Ph-2/3-3		■			0640041	3	ELTC-41	3			25A	20A	16/0,03A	2	4kW	3680	500x500x210
EL-PCP-3Ph-2/3-3		■			0640042	3	ELT-GP2	3			25A	20A	16/0,03A	2	4kW	3680	500x500x210
EL-PCP-3Ph-2/3-6		■			0640050	6	ELTC-21	6			40A	32A	16/0,03A	2	4kW	3680	600x600x210
EL-PCP-3Ph-2/3-9		■			0640051	9	ELTC-21	9			63A	63A	16/0,03A	2	4kW	3680	760x760x210
EL-PCP-3Ph-2/3-12		■			0640052	12	ELTC-21	12			63A	63A	16/0,03A	2	4kW	3622,5	760x760x210
EL-PCP-3Ph-2/3-15		■			0640053	15	ELTC-21	15			100A	100A	16/0,03A	2	4kW	3680	760x760x210
EL-PCP-3Ph-2/3-6		■			0640054	6	ELTC-41	6			40A	32A	16/0,03A	2	4kW	3680	600x600x210
EL-PCP-3Ph-2/3-9		■			0640055	9	ELTC-41	9			63A	63A	16/0,03A	2	4kW	3680	760x760x210
EL-PCP-3Ph-2/3-12		■			0640056	12	ELTC-41	12			63A	63A	16/0,03A	2	4kW	3622,5	760x760x210
EL-PCP-3Ph-2/3-15		■			0640057	15	ELTC-41	15			100A	100A	16/0,03A	2	4kW	3680	760x760x210
EL-PCP-3Ph-2/3-6		■			0640058	6	ELT-GP2	6			40A	32A	16/0,03A	2	4kW	3680	600x600x210
EL-PCP-3Ph-2/3-9		■			0640059	9	ELT-GP2	9			63A	63A	16/0,03A	2	4kW	3680	760x760x210
EL-PCP-3Ph-2/3-12		■			0640060	12	ELT-GP2	12			63A	63A	16/0,03A	2	4kW	3622,5	1000x760x210
EL-PCP-3Ph-2/3-15		■			0640061	15	ELT-GP2	15			100A	100A	16/0,03A	2	4kW	3680	1000x10000x300
EL-PCP-3Ph-2/3-1			■		0640070	1	ELTC-21	1			25A	20A	16/0,03A	3	4kW	11040	380x380x210
EL-PCP-3Ph-2/3-2			■		0640071	2	ELTC-21	2			40A	32A	16/0,03A	3	4kW	11040	500x500x210
EL-PCP-3Ph-2/3-3			■		0640072	3	ELTC-21	3			63A	63A	16/0,03A	3	4kW	11040	600x600x210
EL-PCP-3Ph-2/3-1			■		0640073	1	ELTC-41	1			25A	20A	16/0,03A	3	4kW	11040	380x380x210
EL-PCP-3Ph-2/3-2			■		0640074	2	ELTC-41	2			40A	32A	16/0,03A	3	4kW	11040	500x500x210
EL-PCP-3Ph-2/3-3			■		0640075	3	ELTC-41	3			63A	63A	16/0,03A	3	4kW	11040	600x600x210
EL-PCP-3Ph-2/3-1			■		0640076	1	ELT-GP2	1			25A	20A	16/0,03A	3	4kW	11040	380x380x210
EL-PCP-3Ph-2/3-2			■		0640077	2	ELT-GP2	2			40A	32A	16/0,03A	3	4kW	11040	500x500x210
EL-PCP-3Ph-2/3-3			■		0640078	3	ELT-GP2	3			63A	63A	16/0,03A	3	4kW	11040	760x760x210
EL-PCP-3Ph-2/3-2			■		0640079	2	ELT-GP2	2			40A	32A	16/0,03A	3	4kW	11040	600x600x210
EL-PCP-3Ph-2/3-1				■	0640080	1	ELTC-21	1	ELTC-21	2	25A	20A	16/0,03A	3	4kW	11040	600x600x210
EL-PCP-3Ph-2/3-2				■	0640081	2	ELTC-21	2	ELTC-21	4	40A	32A	16/0,03A	3	4kW	11040	600x600x210
EL-PCP-3Ph-2/3-3				■	0640082	3	ELTC-21	3	ELTC-21	6	63A	63A	16/0,03A	3	4kW	11040	760x760x210
EL-PCP-3Ph-2/3-1				■	0640083	1	ELTC-41	1	ELTC-21	2	25A	20A	16/0,03A	3	4kW	11040	600x600x210
EL-PCP-3Ph-2/3-2				■	0640084	2	ELTC-41	2	ELTC-21	4	40A	32A	16/0,03A	3	4kW	11040	600x600x210
EL-PCP-3Ph-2/3-3				■	0640085	3	ELTC-41	3	ELTC-21	6	63A	63A	16/0,03A	3	4kW	11040	760x760x210
EL-PCP-3Ph-2/3-1				■	0640086	1	ELT-GP2	1	ELT-GP2	2	25A	20A	16/0,03A	3	4kW	11040	760x760x210
EL-PCP-3Ph-2/3-2				■	0640087	2	ELT-GP2	2	ELT-GP2	4	40A	32A	16/0,03A	3	4kW	11040	760x760x210
EL-PCP-3Ph-2/3-3				■	0640088	3	ELT-GP2	3	ELT-GP2	6	63A	63A	16/0,03A	3	4kW	11040	1000x760x210

Power and Control Panels (non ex) for Heat Tracing in **Hazardous** Areas

These power and control panels, designed in cooperation with leading panel producers are configured for heat tracing circuits in hazardous areas with the contrl panels located in outside the hazardous zone. They are equipped with a JUMO safetyM STB/STW Ex controller.

Areas of use

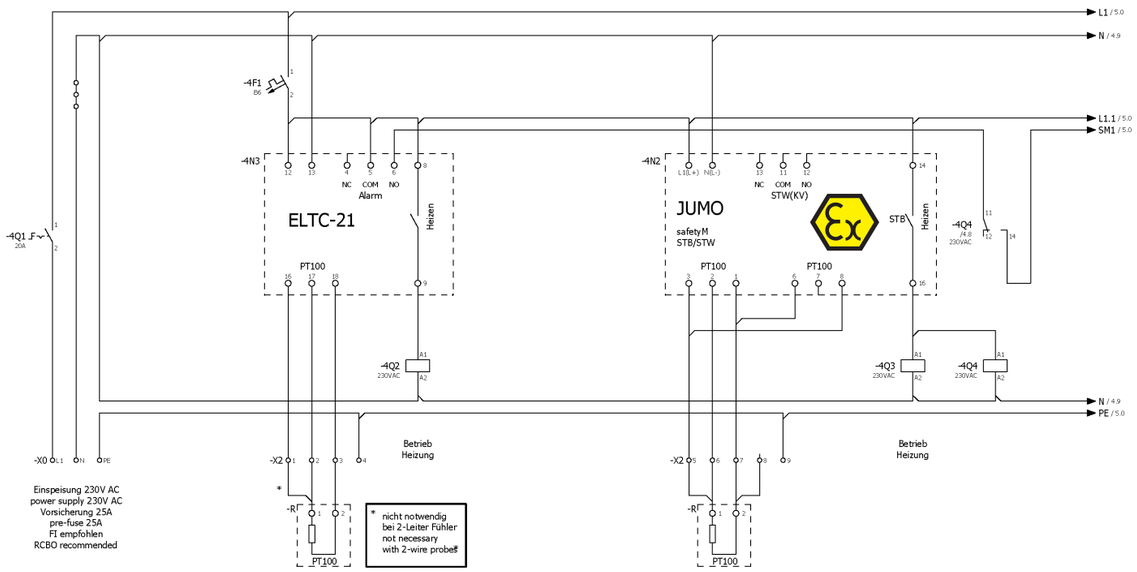
- Heat tracing circuits in hazardous (ex) areas
- Power and control panels located outside the hazardous area

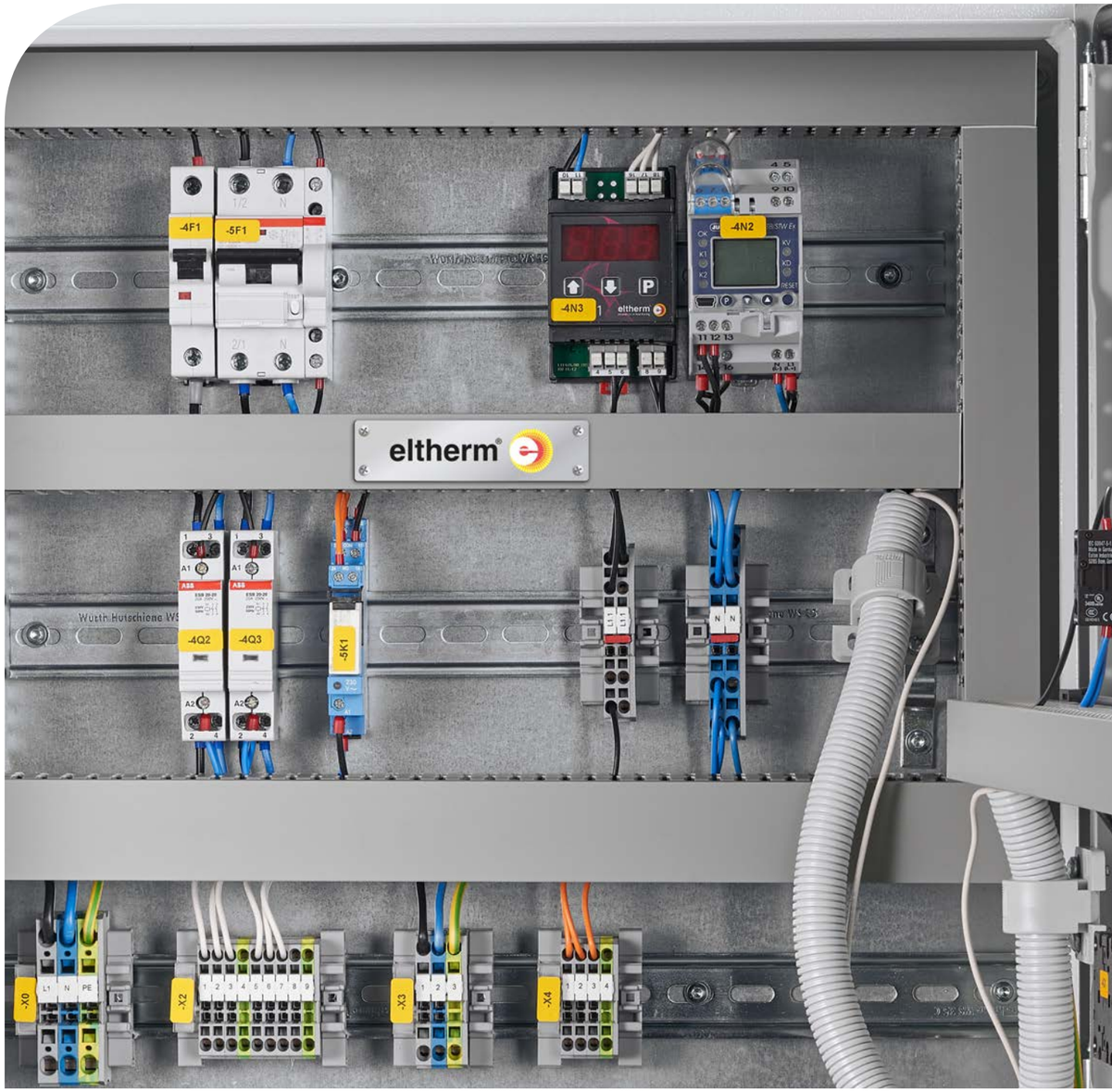
Technical Data

Design and Functions	
Cable gland	Plastic cable gland plate with metric perforations
Standard:	EN 60079-30
Operating range ELT-GP2	0 bis +45 °C
Operating range ELTC-21	-25 bis +55 °C
Operating range ELTC-41	-25 bis +55 °C
Rated voltage	230/400 V, 50/60 HZ
Protection class	I
Type of protection acc. to EN 60529	IP55
Enclosure	steel, powder-coated RAL 7032

Circuit Diagram

Type EL-PCP, single and 3 phase, 1 to 15 heating circuits





Standard equipment (example):

- 1x main switch 20A, 1 terminal
- 1x circuit breaker B6A, 1 terminal
- 1x signal lamp
- 1x signal lamp, red (error)
- 1x relay (error 1 W. isolated)

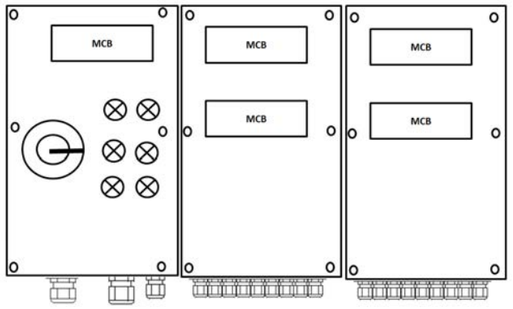
Standard equipment per heating circuit (example):

- 1x temperature controller ELTC-21
- 1x FI/LS C16/0,03A, 2 terminals
- 1x contacter

Standard Power and Control Panels (not ex) for trace heaters in hazardous areas

Type	Heating single phase, 230 V	Heating 3 phase, 230/400V/3Ph/N/PE	Heating 3 phase, 230/400V/ 3Ph/N/PE,Y/ΔY/Δ	Heating 3 phase 230/400V/3Ph/N/PE, Y/Δ, non Ex, R/OT/OTY/Δ	Ref. No.	Heating circuits	Controller	No. of controllers	OT	No. of OT	Fuse	Main switch	Circuit breaker	Terminals	Power contactor	Power output P_{max}	Dimensions HxWxL (mm)
EL-PCP-Ex-1Ph-2-1	■				0640090	1	ELTC-21	1	JUMO safetyM STB/STW Ex	1	25A	20A	16/0,03A	2	4kW	3680	500x500x210
EL-PCP-Ex-1Ph-2-2	■				0640091	2	ELTC-21	2	JUMO safetyM STB/STW Ex	2	32A	32A	16/0,03A	2	4kW	2875	500x500x210
EL-PCP-Ex-1Ph-2-1	■				0640092	1	ELTC-41	1	JUMO safetyM STB/STW Ex	1	25A	20A	16/0,03A	2	4kW	3680	500x500x210
EL-PCP-Ex-1Ph-2-2	■				0640093	2	ELTC-41	2	JUMO safetyM STB/STW Ex	2	32A	32A	16/0,03A	2	4kW	2875	500x500x210
EL-PCP-Ex-3Ph-2/3-3		■			0640100	3	ELTC-21	3	JUMO safetyM STB/STW Ex	3	25A	20A	16/0,03A	2	4kW	3680	500x500x210
EL-PCP-Ex-3Ph-2/3-3		■			0640101	3	ELTC-41	3	JUMO safetyM STB/STW Ex	3	25A	20A	16/0,03A	2	4kW	3680	500x500x210
EL-PCP-Ex-3Ph-2/3-6		■			0640110	6	ELTC-21	6	JUMO safetyM STB/STW Ex	6	40A	32A	16/0,03A	2	4kW	3680	760x760x210
EL-PCP-Ex-3Ph-2/3-9		■			0640111	9	ELTC-21	9	JUMO safetyM STB/STW Ex	9	63A	63A	16/0,03A	2	4kW	3680	800x1000x300
EL-PCP-Ex-3Ph-2/3-12		■			0640112	12	ELTC-21	12	JUMO safetyM STB/STW Ex	12	63A	63A	16/0,03A	2	4kW	3622,5	800x1000x300
EL-PCP-Ex-3Ph-2/3-15		■			0640113	15	ELTC-21	15	JUMO safetyM STB/STW Ex	15	100A	100A	16/0,03A	2	4kW	3680	800x1000x300
EL-PCP-Ex-3Ph-2/3-6		■			0640114	6	ELTC-41	6	JUMO safetyM STB/STW Ex	6	40A	32A	16/0,03A	2	4kW	3680	760x760x210
EL-PCP-Ex-3Ph-2/3-9		■			0640115	9	ELTC-41	9	JUMO safetyM STB/STW Ex	9	63A	63A	16/0,03A	2	4kW	3680	800x1000x300
EL-PCP-Ex-3Ph-2/3-12		■			0640116	12	ELTC-41	12	JUMO safetyM STB/STW Ex	12	63A	63A	16/0,03A	2	4kW	3622,5	800x1000x300
EL-PCP-Ex-3Ph-2/3-15		■			0640117	15	ELTC-41	15	JUMO safetyM STB/STW Ex	15	100A	100A	16/0,03A	2	4kW	3680	800x1000x300
EL-PCP-Ex-3Ph-2/3-1			■		0640130	1	ELTC-21	1	JUMO safetyM STB/STW Ex	2	25A	20A	16/0,03A	3	4kW	11040	600x600x210
EL-PCP-Ex-3Ph-2/3-2			■		0640131	2	ELTC-21	2	JUMO safetyM STB/STW Ex	4	40A	32A	16/0,03A	3	4kW	11040	600x600x210
EL-PCP-Ex-3Ph-2/3-3			■		0640132	3	ELTC-21	3	JUMO safetyM STB/STW Ex	6	63A	63A	16/0,03A	3	4kW	11040	760x760x210
EL-PCP-Ex-3Ph-2/3-1			■		0640133	1	ELTC-41	1	JUMO safetyM STB/STW Ex	2	25A	20A	16/0,03A	3	4kW	11040	600x600x210
EL-PCP-Ex-3Ph-2/3-2			■		0640134	2	ELTC-41	2	JUMO safetyM STB/STW Ex	4	40A	32A	16/0,03A	3	4kW	11040	600x600x210
EL-PCP-Ex-3Ph-2/3-3			■		0640135	3	ELTC-41	3	JUMO safetyM STB/STW Ex	6	63A	63A	16/0,03A	3	4kW	11040	760x760x210
EL-PCP-Ex-3Ph-2/3-1				■	0640140	1	ELTC-21	1	JUMO safetyM STB/STW Ex	1	25A	20A	16/0,03A	2	7,5kW	6000	600x600x210
EL-PCP-Ex-3Ph-2/3-2				■	0640141	2	ELTC-21	2	JUMO safetyM STB/STW Ex	2	32A	32A	16/0,03A	2	7,5kW	12000	600x600x210
EL-PCP-Ex-3Ph-2/3-1				■	0640142	1	ELTC-41	1	JUMO safetyM STB/STW Ex	1	25A	20A	16/0,03A	2	7,5kW	6000	600x600x210
EL-PCP-Ex-3Ph-2/3-2				■	0640143	2	ELTC-41	2	JUMO safetyM STB/STW Ex	2	32A	32A	16/0,03A	2	7,5kW	12000	600x600x210

Ex Power and Control Panels for Heat Tracing in **Hazardous** Areas



Power distribution panels boards for heat tracing in hazardous areas are designed by eltherm and produced by qualified partners. They allow EHT equipment to be safely operated in hazardous areas.

Circuit breakers are impressively user-friendly and ensure safe operation. Assembly is fast and easy. A hinged inspection glass allows the panels to be actuated from outside, even when live. The switching position is always visible.

- Power distribution board for lighting circuits and heat tracing systems
- Nominal current of 6-40 A, rated tripping current of 30 mA, switching capacity of 10 kA

The standard designs have 10 to 36 outgoing lines and are designed for rated operational currents of up to 160 A. Designs to customer specifications are also possible.

Power and Control Panels PCP-Ex

Features

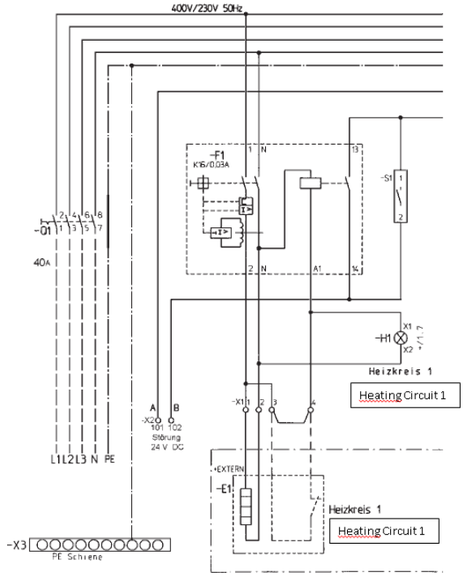
Product Type:	Power and control panels hazardous areas with circuit breaker and overcurrent release
Features:	› Cable Entries from M20—M72 › Connection Terminals up to 35mm² › Standard designs: short delivery times › Customer-specific options possible › Miniature circuit breaker, tripping characteristic C › Residual current circuit breaker with overcurrent release, tripping characteristic C › Outgoings rates 10, 16, 20, 25 A

Technical Data

Application classes (zones):	21,22,1,2
Protection classes:	IP66
Electrical data:	230-400V 50/60Hz
Ambient class:	-20°C to -40°C (others on request)
Approvals:	ATEX,IEC-Ex, CSA, FM,
Gland connections	› Power supply M40 (others on request) › Outgoing M16-M25 (others on request)
Outgoing rates	Outgoing rates 10, 16, 20, 25 A

Designs

Type	Part No.
Max. 6 outgoing, 1 pole, 16 A	2018-PCP-Ex-0001
Max. 12 outgoing, 1 pole, 16 A	2018-PCP-Ex-0002
Max. 18 outgoing, 1 pole, 16 A	2018-PCP-Ex-0003
Max. 24 outgoing, 1 pole, 16 A	2018-PCP-Ex-0003



Power & Distribution Junction Boxes

Stainless Steel / Polyester

Product Type:	Ex heat tracing distribution junction box made of high-quality polyester or stainless steel
Sizes:	Polyester boxes: 190 x 75 x 55 mm to 600 x 250 x 160 mm Stainless Steel Boxes: 150 x 150 x 80 mm
Ambient temperatures:	-60°C to +70°C
Certificates:	ATEX, IECEx, GOST TC-RU, NEMA 4X
Protection system:	IP 66
Features:	› Cable entries from M12 to M63 › Terminal sizes from 1,5 to 16 mm² › Glands: polyester, brass, stainless steel

Polyester

Material:	Polyester
Ambient Temperatures:	Standard: -20 to +40°C, additional options available on request

Stainless Steel

Material:	Stainless steel 1.4301, (AISI 304), brush finished
Ambient Temperatures:	-40 to +55°C

Optional on Request:
EX -enclosures and distributors for 2B/2C
are planned individually to customer or project specifications.

eltherm **Controllers**

Type	ELT-ANZ	Modutronic ELT-GP2	ELTC-21	ELTC-41
				
Display range	□ 0...+100, +200, +400, 800 °C	□ 0...+100, +200, +400, 800 °C	-50...+400 °C	-60...+410 °C
Enclosure (BxHxT) mm	96 x 96 x 119	45 x 118 x 137	51.5 x 87.5 x 58.0	70 x 60 x 30
Standard rail		■	■	■
Wall-mounted enclosure				
Supply voltage 230 V AC	■	■	■	90 - 260 V AC / 50/60 Hz
Measurement				
Pt100		□	■	■
Thermocouple Type J		□		
Thermocouple Type K		□		
Signal contact	■	□	■	■
Analogue output		□		
Digital signal		□	■	■
Power input (VA)	5 VA	5 VA		< 5 W
Protection class (front)	IP 54	IP 20	IP 30	IP 20
Switching capacity		12 A	16 A	12 A

Key: ■ standard □ optional ■ alternative □ configuration

The scalable SCADA solution from eltherm: TraceVision®

TraceVision® is eltherm's SCADA (supervisory control and data acquisition) system to control and monitor electrical heat tracing systems in any type of industry.

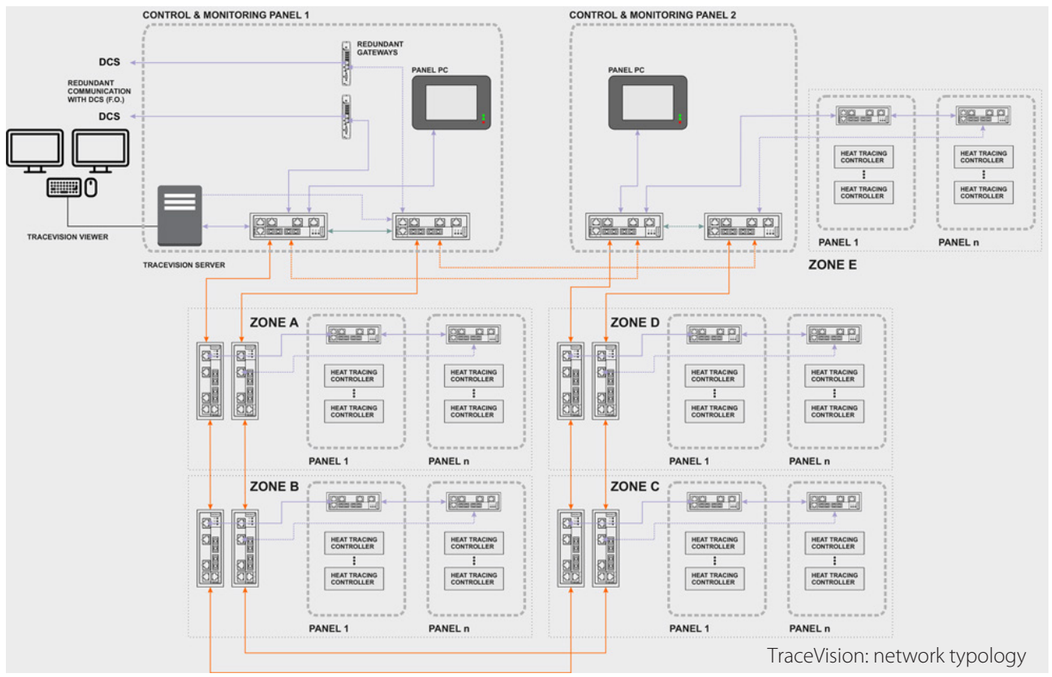
- It is a reliable system for monitoring and control
- The heat tracing controls can be parametered separately to adapt each one to the requirements of each particular heating application
- It is modular and scalable from medium-sized to very large plants with several thousand heating circuits
- It is compatible with any Windows PC

TraceVision's heat tracing controllers can be programmed individually and configured for each heat tracing circuit. A heat tracing system can be configured with up to 72 temperature controllers (type EL-HTC/22) capable of providing several operating modes, including ON/OFF, PI or ATPC (ambient sensing) control. Each controller can be individually programmed with key parameters including temperature set points and alarm limits, current alarm levels as well input from up to 12 temperature probes.

The main components of the system:

- BEL-HTC/22: Heat tracing controller (PLC basiert) for up to 72 heating circuits
- EL-CAN/24DI or 24DO: CAN bus I/O modules with 24 digital in/outputs
- EL-CAN/8AI: CAN bus I/O modules with 8 analogue inputs
- EL-CAN/8Temp: CAN bus I/O module with 8 RTD (Pt100 or Pt1000) inputs
- Panel PC with touch screen
- TraceVision® Viewer software
- TraceVision® Manager:
- TraceVision® Gateway for communication with DCS

TraceVision Software: The control screen shows control information. Up to two references per control can be used.



TraceVision: network typology

- TraceVision® Viewer software: client software which allows the user to operate the system by connecting to the server
- TraceVision® Manager: server software for a group of users. It
  - manages the database which stores all information on the particular project
  - manages communications with the heat tracing controllers and interface with TraceVision® Viewer
  - logs alarms and data from the heat tracing controllers to the database

The main screen provides a general view of the heat tracing project, including a general alarms notification arewa.

Group screen view

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