

Electronic Thermostat

PRODUCT OVERVIEW



The Raychem Elexant 3500i is a family of compact, full-featured, electronic thermostats for heat tracing control and monitoring in freeze protection and process temperature applications.

Designed from a common hardware platform, the Elexant 3500i offers multiple variants with different features to allow the user flexibility in tailoring the control solution to their heat tracing needs. Available features include: alarm relay, RS-485 and Bluetooth connections, load sensing, ground fault detection, automated heat trace system check, mobile app for wireless configuration, and more. The Elexant 3500i is suitable for hazardous and nonhazardous locations, and can be wall mounted or pipe mounted.

Variant	Standard (-ST)	Alarm (-AR)	Communicating (-C)	Current Sensing (-I)	Ground Fault Detecting (-GF)
Modular Design	✓	✓	✓	✓	✓
Quick Connect	✓	✓	✓	✓	✓
Local Indicator Light	✓	✓	✓	✓	✓
Alarm Relay		✓	✓	✓	✓
Temperature Sensors	1	1	1	2	2
Secured Configuration			✓	✓	✓
Central Communication			✓	✓	✓
Programmable as a Temperature Limiter			✓	✓	✓
Auto-Test				✓	✓
Load Sensing				✓	✓
Ground Fault Protection					✓

Fast Installation with Minimal Components

- Quick connect terminals for fast and secure cable connection.
- Power connection and thermostat in one, for up to two heating cables.
- Robust wall-mounted or pipe stand enclosures, minimizing required components and tools.
- Approved to 32 A and 277 Vac, for longer heating cable lengths, thereby minimizing circuits and components.

Flexible Design. Reliable Performance.

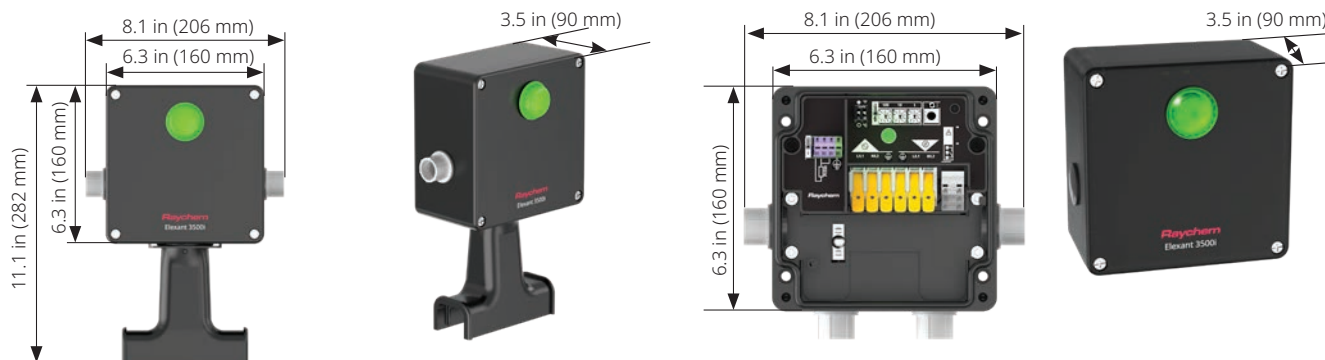
- Five variants of electronic modules to match your needs, from local indication light, to remote communication, current and ground fault sensing.
- Interchangeable electronic modules for hassle free upgrades.
- Globally approved for hazardous areas in extreme environments (-55°C to +60°C, -67°F to +140°F).
- Hybrid switching relay (SSR + EMR) rated to 250,000 power cycles for superior product life (IEC 60079).

Connected Operation. Automated Monitoring.

- Configure via Bluetooth on a mobile device or tablet with the Elexant Connect App.
- Connect to your distributed control system (DCS) for remote control & monitoring. Be in full control. Anywhere. Anytime.
- Auto-test performed every 24 hours for early warnings & predictive maintenance.
- "Find Me" feature via Bluetooth connection allows user to quickly identify and locate specific Elexant 3500i thermostats.

PRODUCT SPECIFICATIONS

Dimensions



Elexant 3500i Pipe Mount Electronic Thermostat

Elexant 3500i Wall Mount Electronic Thermostat

Enclosure

Supply Voltage	100 Vac to 277 Vac, +/-10%, 50-60 Hz
Wall Mount	Wall mounting with 4 predrilled holes, 2 rain plugs and 2 conduit hubs included. 1 x 3/4" hole on left 1 x 3/4" hole on right 2 x 3/4" hole on bottom
Pipe Mount	Pipe Mounting with 2 predrilled holes, 2 rain plugs preinstalled. Conduit hubs not included. 1 x 3/4" hole on left 1 x 3/4" hole on right 1 x Pipe Stand

Environmental

Compliance	RoHS and Reach
Protection	Type 4X, IP 66
Ambient Operating Temperature	-55°C to +60°C (-67°F to +140°F)
Ambient Storage Temperature	-55°C to +80°C (-67°F to +176°F)
Relative Humidity	0% to 90%, noncondensing
Max Altitude	2,000 m (6562 ft)
Maximum Pipe Temperature (for pipe mounted variants)	205°C (401°F)*

* Note: For high pipe temperature applications above 205°C (401°F) use a pipe bracket with a wall mounted Elexant 3500i. See Elexant 3500i Accessory table below.

Control

Current, maximum	32 A @+40°C (104°F) linearly derated to 24A @+60°C (140°F)
Control Algorithms	On/Off (Deadband), Always On, Always Off
Control Temperature	For -ST and -AR variants: -17°C to +550°C (+0°F to +1022°F). For -C, -I, & -GF variants: -55°C to +550°C (-67°F to +1022°F)

Monitoring

Temperature	Low Alarm Range (-60°C to +545°C) (-76°F to +1013°F) High Alarm Range (-50°C to +600°C) (-58°F to +1112°F)
Ground Fault	GF Alarm or GF Trip (30 mA or 50 mA). UL1053 compliant.
Current	Low Current Alarm Threshold (0.1 A)
Autocycle	Diagnostic Test Interval (24 hours)

Temperature Sensor Inputs

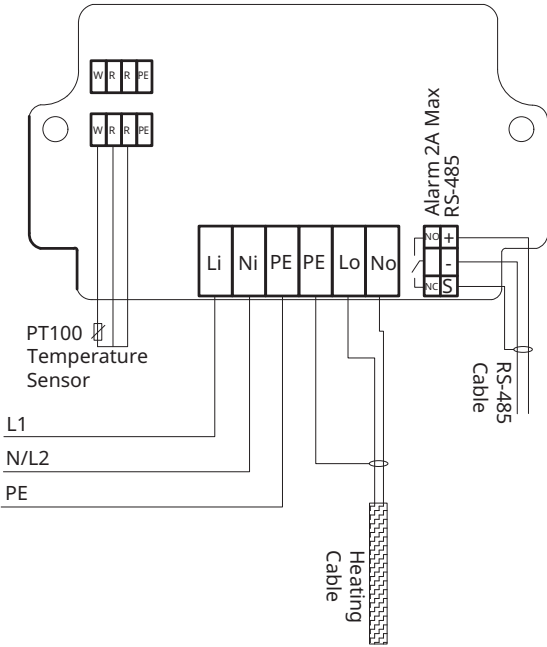
Quantity	1 for Standard, Alarm, and Communicating variants. 2 for Current Sensing and Ground Fault Sensing variants.
Sensor Input Type	100 Ω platinum, 3-wire, α = 0.00385 Ω/°C

Alarm Outputs

Quantity	1 for Alarm, Communicating, Current Sensing, and Ground Fault Detecting variants.
Alarm Relay	Form-C dry contact: 100 VAC to 277 VAC, 2 A, 50/60 Hz. For the Alarm Variant: Alarm relay set to be normally closed. For the Communicating, Current Sensing, and Ground Fault Detecting variants: Software programmable to normally open or normally closed.

Configuration

Method	Setpoint: Rotary Dials for Standard and Alarm variant in 1° increments Wired via RS-485 Modbus, or wireless configuration via Bluetooth device and Elexant Connect App for Communicating, Current Sensing, and Ground Fault Detecting variants. Maximum suggested bluetooth connection range of 40 m (130')		
Units	°C or °F		
Status LED	Color	LED Behavior	Alarms (where applicable)
	Green	Solid	Power On, Heating Off
	Green	80% on, 20% off (Heartbeat)	Power On, Heating On, Limiter Output On
	Yellow	Solid	High temp, Low Temp, Low Current, GF Alarm, Cycle Count, Heater on time Alarm
	Red	50% on, 50% off	GF Trip , GF CT Failure, TS Fail, SW Fail, Lim Trip, High Temp cutout, internal failure
Memory	Nonvolatile, restored after power loss, checksum data checking		
Alarm Conditions (where applicable)	Low / High Temperature, Low Current, Ground Fault Alarm or Ground Fault Trip, RTD Failure, Loss of programmed values, Relay failure, Limiter Trip, Relay lifetime exceeded,		
Equipment Protection	Ground Fault Trip, High Temperature Limit		



Connection Terminals

Power Supply Input	2 x Lever Terminal, 18 - 4 AWG, (0.75 - 25 mm ²)
Heating Cable Output	2 x Lever Terminal, 18 - 4 AWG, (0.75 - 25 mm ²)
Heating Cable Compatibility	BTV-CR, BTV-CT, QTVR-CT, XTV-CT, XTVR-CT, KTV-CT, HTV-CT, and VPL-CT 2SC-30, 2SC-40, 2SC-50
Ground (Earth)	Ground Lug on Earthing Plate , 16 - 4 AWG, (1.5 - 24 mm ²)
RTD	1 x (for Standard, Alarm, and Communicating variants) or 2 x (for Current Sensing and Ground Fault Detecting variants) Cage Clamp Terminals, 28 - 12 AWG, (0.08 - 2.5 mm ²)
Alarm Relay	1 x (on Alarm, Communicating, Current Sensing, and Ground Fault Variants) Cage Clamp Terminals, 28 - 12 AWG, (0.08 - 2.5 mm ²)
RS-485 Communications	1 x (on Communicating, Current Sensing, and Ground Fault Detecting variants) Cage Clamp Terminals, 28 - 12 AWG, (0.08 - 2.5 mm ²)

Communications

RS-485 Cable	One Shielded Twisted Pair (not included)
Maximum quantity of control units	Up to 247 thermostats can be connected in one network
Protocol	MODBUS RTU
Parity	None, even, odd
Stop Bits	1 or 2
Tx Delay	1-50 milliseconds
Bluetooth	BLE 5.1. Encrypted connection. Password protected device configuration.

APPROVALS

Product certification



Class 1, Division 2, Group A, B, C, D T5 Type 4X

Class II, Division 2, Group F, G

RTD output provides non-incendive outputs for Class I, Division 2, Groups A,B,C,D when installed in accordance with the Installation Instructions

ORDERING INFORMATION

Elxant 3500i Complete Thermostat (Pipe Mount)

Name	Description	Part Number	Weight
Elxant 3500i-ST-P-A	Standard Variant Pipe Mount Kit	2000003757	7.5lb
Elxant 3500i-AR-P-A	Alarm Variant Pipe Mount Kit	2000003758	7.5lb
Elxant 3500i-C-P-A	Communicating Variant Pipe Mount Kit	2000002626	7.5lb
Elxant 3500i-I-P-A	Current Sensing Variant Pipe Mount Kit	2000003759	7.5lb
Elxant 3500i-GF-P-A	Ground Fault Detecting Variant Pipe Mount Kit	2000003760	7.5lb

Elxant 3500i Complete Thermostat (Wall Mount)

Name	Description	Part Number	Weight
Elxant 3500i-ST-W-A	Standard Variant Wall Mount Kit	2000003749	6.5lb
Elxant 3500i-AR-W-A	Alarm Variant Wall Mount Kit	2000003750	6.5lb
Elxant 3500i-C-W-A	Communicating Variant Wall Mount Kit	2000002454	6.5lb
Elxant 3500i-I-W-A	Current Sensing Variant Wall Mount Kit	2000003751	6.5lb
Elxant 3500i-GF-W-A	Ground Fault Detecting Variant Wall Mount Kit	2000002924	6.5lb

Elxant 3500i Replacement Control Module

Name	Description	Part Number	Weight
Elxant 3500i-ST	Standard Variant Replacement Module	2000003766	2.6lb
Elxant 3500i-AR	Alarm Variant Replacement Module	2000003767	2.6lb
Elxant 3500i-C	Communicating Variant Replacement Module	2000002657	2.6lb
Elxant 3500i-I	Current Sensing Variant Replacement Module	2000003768	2.6lb
Elxant 3500i-GF	Ground Fault Detecting Variant Replacement Module	2000003769	2.6lb

Elxant 3500i Replacement Enclosure

Name	Description	Part Number	Weight
Elxant 3500i-W-A	Elxant 3500i Wall Mount Replacement Kit	2000003747	4.0lb
Elxant 3500i-P-A	Elxant 3500i Pipe Mount Replacement Kit	2000003756	4.5lb

Elxant 3500i Accessories

Name	Description	Part Number	Weight
MONI-PT100-260/2	Pt. 100 ohm RTD w/2 m lead for pipe mount versions	1244-006615	0.3lb
MONI-PT100-260/5	Pt. 100 ohm RTD w/5 m lead for pipe mount versions	1244-020817	0.3lb
MONI-PT100-260/10	Pt. 100 ohm RTD w/10 m lead for pipe mount versions	1244-020816	0.3lb
RTD4AL	Pt. 100 ohm RTD4AL for wall mount versions	RTD4AL	1.3lb
MBRP-B	Mounting Bracket for wall mount versions	T0002003	1.1 lb

*Other RTDs available, see Elxant 3500i product web page.

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