

# Electronic Temperature Controller & Limiter

## Kelvin

### Features

- Multi-function controller/limiter
- ATEX/IECEX approved for Zone 1 and 2
- Designed for Class 1 Division 2
- Temperature setpoint adjustable via rotary switches
- Remote access via Modbus
- Alarm relay optional

### Applications

- Control/monitor heat trace systems
- Process temperature control
- Freeze protection
- Over-temperature control
- Viscosity control
- Configurable for other applications, on request



### Technical Data

Operating Mode	
Temperature Controller	- Two Point Controller - 0 ... 500°C - 85-277V, up to 30A <sup>1</sup> - Zone 1 and 2
Temperature Controller	- Limiter in compliance with IEC/IEEE 60079-30-1 - 0 ... 500°C - 85-277V, up to 30A <sup>1</sup> - Zone 1 and 2
Temperature Limiter/Controller	- Limiter in compliance with IEC/IEEE 60079-30-1 - Two point Controller - 0 ... 500°C - 85-277V, up to 22A <sup>1</sup> - Zone 2
Measurement	
Device	3 wire PT100 with cable compensation
Range	-60...500°C
Accuracy	0.5% FS
Mounting	- Panel mount - DIN-Rail-Clip
Temperature Range	-40...55°C <sup>1</sup>
Interfaces/Options	Rotary Switches (Temperature Setup / Modbus Address)
	Colored LED indicator (Device Status)
	Alarm Relay (277 VAC or 36 VDC / 2A)
	Modbus RTU (Parametrization, Device Status)
	USB (Parametrization, Device Status, Firmware Update)
Approvals	
Europe	ATEX/IECEX approved for Zone 1 and 2, Temperature class up to T6 <sup>1</sup>
North America	Designed for Class 1 Division 2

<sup>1</sup> see table Control Relay Rating:

### Control Relay Rating

Current Limits for Trace Heating		
Maximum Ambient Temperature [°C]	T6 [A]	T5 [A]
15	30.0 (22.0)*	30.0 (22.0)*
20	29.1 (22.0)*	30.0 (22.0)*
25	27.8 (22.0)*	30.0 (22.0)*
30	26.4 (22.0)*	30.0 (22.0)*
35	24.9 (22.0)*	29.1 (22.0)*
40	23.4 (22.0)*	27.8 (22.0)*
45	16.3	26.4 (22.0)*
50		24.9 (22.0)*
55		23.4 (22.0)*
60		21.7
65		19.9
70		12.5

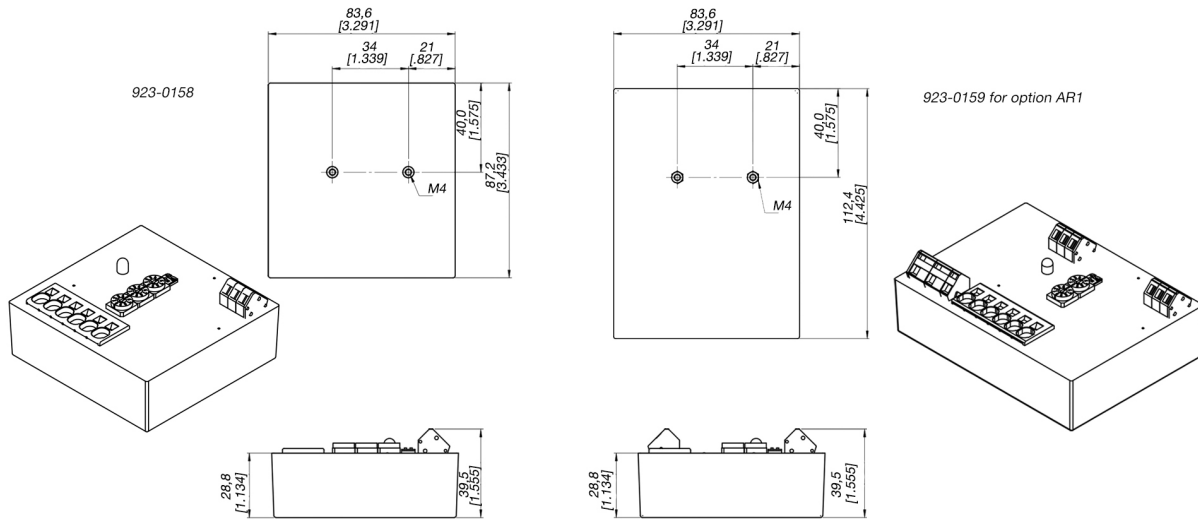
Maximum ambient temperature in above table is temperature around the device, inside the required enclosure. Ambient temperature outside the enclosure has to be lower to keep above limits. Temperature limitation outside the enclosure depends on enclosure type and size.

\* Maximum current in above table is reduced to 22A in case of Temperature Controller with Limiter function (Configuration BHTLC) in compliance with IEC/IEEE 60079-30-1 for trace heating installed in Zone 2.

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### Dimensions (mm / inch)



### Order Code

<b>Series BHTx</b>	
<b>Base Model</b>	
BHTC	Controller
BHTL	Limiter
BHTLC	Limiter and Controller Zone 2
<b>No. of circuits</b>	
SC	Single Circuit
<b>Power Relay</b>	
PR1	30 A
<b>Alarm Relay</b>	
NA	No Alarm Relay
AR1 <sup>2</sup>	2 A
<b>Communication setup</b>	
N	No LED No Switch
L <sup>1</sup>	LED Interface only
D	DIAL Setpoint
LD <sup>1</sup>	LED with Dial Setpoint
S	Modbus
LS <sup>1</sup>	LED/Modbus

### Example

BHTC -SC -PR1 -AR1 LD

<sup>1</sup> LED option reduces temperature rating to T5.

<sup>2</sup> Optional Alarm Relay will change dimensions.

### Order Numbers

Order Numbers	Description
0621-001	BHTC-SC-PR1-NA-LD
0621-008	BHTL-SC-PR1-NA-LD

Other order numbers only upon request.