

# Thermostats for DIN-rail mounting

## Thermostat 1-stage, DIN-rail mounting



Electronic thermostat for heating or cooling. Adjustable night setback via an external clock. Multiple thermostats can be connected to the same sensor.

Technical data	
Outputs	One, 16 A, 250 V AC, closing relay
Setpoint	0...30°C
Hysteresis	0...10 K
Night setback	0...10 K
Sensor inputs	One Regin NTC sensor
Mounting	DIN-rail
Number of modules	3
Protection class	IP20
Dimensions (WxHxD)	53 x 85 x 74 mm

Article	Description	Supply voltage
TM1N/D	Electronic thermostat	230 V AC ±10 %, 3 VA
TM1N-24/D	Electronic thermostat	24 V AC ±10 %, 3 VA

## Thermostat, 2-stage, DIN-rail mounting



Thermostat with two relay outputs and individually settable steps for heating or cooling function. Sequential or binary function.

Technical data	
Supply voltage	24 V AC, 2 VA
Outputs	Two, 10 A, 250 V AC, closing relays
Setpoint	0...30°C
Hysteresis	0.5...5 K
Step differential	0...5 K
Sensor inputs	One Regin NTC sensor
Mounting	DIN-rail
Number of modules	3
Protection class	IP20
Dimensions (WxHxD)	53 x 85 x 74 mm

Article	Description
TM2-24/D	Electronic 2-stage thermostat

## Other temperature ranges

Alternative setpoint scale for the TM1 and TM2 thermostats, when using sensors with other temperature ranges.

Article	Description	Temperature range
SKALA-1228	Scale for TM1N/D, TM1N-24/D and TM2-24/D	20...50°C

## Duct controllers



### Duct controller, one 0...10V DC output

Compact controller for mounting in ventilation ducts. The controller has a built-in sensor and setpoint control. An external setpoint potentiometer can be connected if required. Can be used to control either heating or cooling. P- or PI-control optional.

AL24A1K has an input for change-over between heating and cooling. The change-over function can be activated by means of an external closing contact or a sensor mounted on the supply-water side of the heating/cooling unit.

Technical data	
Supply voltage	24 V AC, 2 VA
Output	One, 0...10 V DC
Setpoint	0...30°C
P-band	0.5...50 K
I-time	2 min/20 min, selectable
Change-over	Input for closing contact or sensor (0...30°C)
Mounting	Duct
Protection class	IP65

Article	Description
AL24A1K	Duct controller, one 0...10 V DC output

# Room controllers

## 0...10V DC or 3-point room temperature controller



AL24A1T is primarily intended for control of heating or cooling in zone control systems. It has an input for a presence detector (occupancy control). The controller also has an input for change-over, which makes it possible for the control function to switch between heating and cooling.

Technical data	
Supply voltage	24 V AC, $\pm 15\%$ 50...60 Hz, 2 VA
Output	0...10 V DC, 1 mA or 3-point, 24 V AC, 1 A
Inputs	Two digital and one Regin NTC sensor
Setpoint	0...40°C
P-band	0.5...50 K
Protection class	IP20

Article	Description
AL24A1T	Room temperature controller

## 3-point room controller with active frost protection



Controller intended for control of valve actuators in water-heated systems. AQUA24TF has a built-in room sensor and can be used for control of supply air temperature or room temperature, with or without cascade control. The controller has built-in active frost protection with two alarm relays and automatic heat maintaining function during shutdown.

Technical data	
Supply voltage	24 V AC $\pm 10\%$
Power consumption	Max. 5 VA
Control signal (output)	3-point floating control, 24 V AC output (heating)
Sensor inputs	Three 0...30°C (the sensor determines the range (Regin NTC sensor))
Setpoint	0...30°C
Minimum limit	0...30°C (not active for single sensor control)
Cascade factor (CF)	1...15 (must be set to 1 for single sensor control)
Frost alarm setpoint	5
Shutdown mode setpoint	25°C
Fan relay	Breaking contact for fan contactor interlock if a frost protection alarm occurs. 230 V AC, 2 A.
Alarm relay	Change-over contact for alarm indication if a frost protection alarm occurs. 24 V AC, 2 A.
Mounting	Wall
Protection class	IP20

Article	Description
AQUA24TF	Room controller with active frost protection

# Room thermostats

## Electromechanical room thermostat

Room thermostat for control of HVAC systems. The thermostat can control fans, cooling units, electric heaters, etc.



Technical data	
Contact	NO/NC 250 V AC 16 (2,5) A
Temperature range	7...30°C
Ambient temperature	50°C
Ambient humidity	Max. 90 % RH
Casing	ABS, fireproof in accordance with UL94 V-0, white
Weight	128 g
Protection class	IP20

Article	On/off button	Summer/winter switch
R31	-	-
R33	X	-
R34	-	X

## Electromechanical room thermostat for fan-coils

The thermostat has a switch for cooling or heating/cooling depending on the model, as well as a switch for fan speed control.



Technical data	
Output	10 (3) A, 250 V AC
Setpoint	10...30°C
Hysteresis	0.6 K
Mounting	Wall
Protection class	IP20

Article	Function
RRT025A	Heating or cooling switch
RRT025B	Cooling switch

## Floorigo – Electronic thermostats for flush-mounting

### Electronic room thermostat for underfloor heating, with sensor



Electronic 1-stage thermostat with an on/off switch, intended for flush mounting. The thermostat is delivered with a floor sensor and has an input for an external sensor. It has a min. and max. limitation feature and night setback function. The unit is supplied with a front cover which fits ELKO casings.

Technical data	
Supply voltage	230 V AC, 6 VA
Output	13 A, 230 V AC, closing relay
Sensor inputs	One for an external sensor, NTC 0...40°C
Setpoint	0...40°C
Night setback	5 K
Hysteresis	0.4 K
Mounting	Flush mounting
Protection class	IP21

Article	Description
FL1-S	Electronic room thermostat

### Electronic room thermostat with display for underfloor heating



Electronic 1-stage thermostat with display and an on/off switch, intended for flush mounting. It has a week-based scheduler with energy saving mode. The thermostat is delivered with a floor sensor and has an input for an external sensor. It has a min. and max. limitation feature and night setback function. The unit is supplied with a front cover which fits ELKO casings.

Technical data	
Supply voltage	230 V AC, 6 VA
Output	13 A, 230 V AC, closing relay
Sensor inputs	One for an external sensor, NTC 0...40°C
Setpoint	0...40°C
Night setback	5 K
Hysteresis	0.4 K
Mounting	Flush mounting
Protection class	IP21

Article	Description
FL1-D	Electronic room thermostat

### Electronic room thermostat for underfloor heating



Floorigo FL1TP is an electronic 1-stage thermostat with an on/off switch. It is intended for flush mounting. The thermostat has manual output and does not need to be connected to an external sensor. It has a time-proportional output 10...100 % and fits in an ELKO casing.

Technical data	
Supply voltage	230 V AC, 6 VA
Output	13 A, 230 V AC, closing relay
Setpoint	1...10°C
Cycle time	30 min
Mounting	Flush mounting
Protection class	IP20

Article	Description
FL1TP	Electronic room thermostat

# Electronic thermostats

## Electronic room thermostat, I-stage

Electronic thermostats intended for heating or cooling with built-in sensor and input for an external sensor.



Technical data	
Supply voltage	230 V AC $\pm$ 10 %, 1 VA
Outputs	16 A, 230 V AC, change-over relay
Setpoint	0...30°C, 20...50°C
Hysteresis	1 K
Sensor inputs	One Regin NTC sensor
Mounting	Wall
Protection class	IP30

Article	Temperature range
TM1-P	0...30°C
TM1-50	20...50°C

## Electromechanical frost protection thermostat

FT is a series of high quality electromechanical frost protection thermostats for use in cooling, heating and ventilation systems. The DR-05 set of mounting brackets is included upon delivery.



Technical data	
Temperature range	-10...+10°C
Contacts	SPDT microswitch
Switch capacity	15 (8) A, 24...250 V AC
Accuracy	± 1K
Ambient temperature	Max. 55°C
Ambient humidity	10...90 % RH (non-condensing)
Max. bulb temperature	150°C
Casing	Base in ABS, transparent Polycarbonate (PC)
Dimensions	140 x 62 x 65 mm (cable gland included)
Weight	320 g
Protection class	IP65 class I

Article	Hysteresis	Reset	Capillary length
FT18	2 K	Automatic	1.8 m
FT30	2 K	Automatic	3 m
FT60	2 K	Automatic	6 m
FT18R	-	Manual	1.8 m
FT30R	-	Manual	3 m
FT60R	-	Manual	6 m

### Accessories

Article	Description
DR-01	Copper immersion well 120 mm, 12 x 1
DR-02	Stainless steel immersion well 120 mm, 12 x 1
DR-05	Set of mounting brackets for capillary fixing (supplied with product)



## Electromechanical immersion thermostats

MTIB is a series of high quality electromechanical immersion thermostats for use in cooling, heating and ventilation systems. They are supplied with a standard DR-16/14 model immersion well.



Technical data	
Sensor element	Liquid-filled copper bulb
Contacts	Dust-tight microswitches with SPDT contacts (heat/cool)
Switch capacity	15 (8) A, 24...250 V AC
Ambient temperature	-35...+65°C
Ambient humidity	10...90 RH (non-condensing)
Hysteresis	1 K
Casing	Bayblend® base, ABS cover
Weight	570 g
Protection class	IP65 class I

Article	Temperature range	Max. bulb temperature
MTIB60	10...60°C	75°C
MTIB120	50...120°C	140°C
MTIB90	20...90°C	100°C

## Accessories

Article	Description
DR-16/14	Copper immersion well 120 mm, 10 x 0.5
DR-17/14	Stainless steel AISI 301 immersion well 120 mm, 10 x 0.5

## Electromechanical capillary thermostat

MTIC is a series of high quality electro-mechanical thermostats for use in cooling, heating and ventilation systems.



Technical data	
Sensor element	Liquid-filled copper bulb
Bulb	Ø 9.5 (Ø 8 for range 50...120°C)
Length, capillary tube	1.5 m
Contacts	Dust-tight microswitches with SPDT contacts (heat/cool)
Switch capacity	15 (8) A, 24...250 V AC
Ambient temperature	-35...+65°C
Ambient humidity	10...90 % RH (non-condensing)
Casing	Bayblend® base, ABS cover
Weight	340 g
Protection class	IP65 class I

Article	Temperature range	Steps	Hysteresis	Step diff.	Max. bulb temperature	Immersion well to use	Hidden setpoint
MTIC30S	-30...+30°C	1	2...20 K	-	60°C	DBZ-01/02	-
MTIC30H	-30...+30°C	1	2...20 K	-	60°C	DBZ-01/02	X
MTIC30-2	-30...+30°C	2	1 K	2...5 K	60°C	DBZ-01/02	-
MTIC30	-30...+30°C	1	1 K	-	60°C	DBZ-01/02	-
MTIC30R	-30...+30°C	1	Manual minimum reset	-	60°C	DBZ-01/02	-
MTIC90S	20...90°C	1	2...20 K	-	100°C	DBZ-01/02	-
MTIC90H	20...90°C	1	2...20 K	-	100°C	DBZ-01/02	X
MTIC90	20...90°C	1	1 K	-	100°C	DBZ-01/02	-
MTIC90R	20...90°C	1	Manual minimum reset	-	100°C	DBZ-01/02	-
MTIC120S	50...120°C	1	2...20 K	-	150°C	DBZ-16/17	-

Article	Description
DR-01	Copper immersion well 120 mm, 12 x 1
DR-02	Stainless steel immersion well 120 mm, 12 x 1
DR-16	Copper immersion well 120 mm, 10 x 0.5
DR-17	Stainless steel immersion well 120 mm, 10 x 0.5

## Electromechanical wall thermostat

MTIR is a series of high quality electromechanical thermostats for use in cooling, heating and ventilation systems.



Technical data	
Sensor element	Liquid-filled coiled copper bulb
Contacts	Dust-tight microswitches with SPDT contacts (heat/cool)
Switch capacity	15 (8) A, 24...250 V AC
Ambient temperature	-35...+60°C
Ambient humidity	10...90 % RH (non-condensing)
Insertion length	200 / Ø 21 mm
Casing	Bayblend® base, ABS cover
Weight	450 g
Protection class	IP65 class I

Article	Temperature range	Steps	Hysteresis	Step diff.	Max. bulb temperature	Hidden setpoint
MTIR30S	-30...+30°C	1	2...15 K		60°C	-
MTIR30SH	-30...+30°C	1	2...15 K	-	60°C	X
MTIR30	-30...+30°C	1	1 K	-	75°C	-
MTIR30-2	-30...+30°C	2	1 K	2...5 K	75°C	-
MTIR60S	0...60°C	1	2...15 K	-	75°C	-
MTIR60	0...60°C	1	1 K	-	140°C	-
MTIR60SH	0...60°C	1	1 K	-	140°C	X
MTIR60S-2	0...60°C	2	1 K	2...5 K	140°C	-

## Electromechanical clamp-on thermostat

MTIS is a series of high quality electromechanical thermostats for use in cooling, heating and ventilation systems.



Technical data	
Sensor element	Liquid-filled copper bulb for contact
Contacts	Dust-tight microswitches with SPDT contacts (heat/cool)
Switch capacity	15 (8) A, 24...250 V AC
Ambient temperature	-35...+65°C
Ambient humidity	10...90 % RH (non-condensing)
Hysteresis	2...20 K
Casing	Bayblend® base, ABS cover
Weight	180...500 g
Protection class	IP65 class I

Article	Temperature range	Max. bulb temperature	Hidden setpoint
MTIS60S	0...60°C	75°C	-
MTIS60SH	0...60°C	75°C	X
MTIS90S	20...90°C	110°C	-
MTIS90SH	20...90°C	110°C	X

## Electromechanical duct thermostat

MTID is a series of high quality electro-mechanical thermostats for use in cooling, heating and ventilation systems.



Technical data	
Sensor element	Liquid-filled copper bulb with 200 mm protection spring and mounting bracket
Contacts	Dust-tight microswitches with SPDT contacts (heat/cool)
Switch capacity	15 (8) A, 24...250 V AC
Ambient temperature	-35...+65°C
Ambient humidity	10...90 % RH (non-condensing)
Insertion length	200 / Ø 21 mm
Material	< 95 % RH
Casing	Bayblend® base, ABS cover
Weight	690 g
Protection class	IP65 class I

Article	Temperature range	Steps	Hysteresis	Step diff.	Max. bulb temperature	Hidden setpoint	Manual max. reset
MTID30H	-30...+30°C	1	1 K	-	60°C	X	-
MTID60S	0...60°C	1	2...20 K	-	75°C	-	-
MTID60-2	0...60°C	2	1 K	2...5	75°C	-	-
MTID60	0...60°C	1	1 K	-	75°C	-	-
MTID120HR	50...120°C	1	1 K	-	140°C	X	X

### Accessories

Article	Description
DR-25	Protection spring and mounting bracket (factory-mounted, supplied with above models)