EKR15.1

LT **ELEKTRINIO ŠILDYMO REGULIATORIUS EKR15.1**

EN **CONTROLLER FOR ELECTRICAL HEATING EKR15.1**

RU **РЕГУЛЯТОР ЭЛЕКТРИЧЕСКОГО НАГРЕВА EKR15.1**

DE **ELEKTRONISCHER TEMPERATURREGLER FÜR ELEKTRO-HEIZREGISTER EKR15.1**

HR **REGULATOR ZA ELEKTRIČNO GRIJANJE EKR15.1**

EN CONTROLLER FOR ELECTRICAL HEATING EKR15.1

Description

EKR15.1 is a proportional controller for electric heaters with automatic voltage adaptation. EKR15.1 controls the whole load On-Off. The ratio between On-time and Off-time is varied 0-100% to suit the prevailing heat demand. EKR15.1 is designed only for electric heating control. The control principle makes it unsuitable for motor or lighting control. EKR15.1 can control 15kW heater and has relay output for extra load control with contactor, on which can be connected load up to 12kW. Full load can be 27kW.
EKR15.1 has zero phase-angle detection to prevent Radio Frequency Interference. EKR15.1 automatically adapts its control mode to suit the dynamics of the controlled object . For rapid temperature changes i. e. supply air control EKR15.1 will act as a PI controller. For slow temperature changes i.e. room control EKR15.1 will act as a P controller.
Night set-back: potential-free closure will give a night set-back of 1-10°C. Settable with a potentiometer (Contacts Timer-GND) in the EKR15.1.

Markings

V2 2 1 – (EKR 15.1)

V2 X Y

1 - Additional 1 step;

2 – power - 15 kW;

Technical data

Controlled load [kW]	15
Extra controlled load [kW] (recommended) *	12
Total controlled load [kW]	27
Max. conrolled current [A]	25
Voltage [V]	3x230/3x400
Frequency [Hz]	50-60
Phases	3~
Dimensions (WxHxL) [mm]	105 x 260 x 120
Fuse [A]	2x 0,315
Protection class	IP20
Ambient temperature without condensation [°C]	0-40
Heat dissipation [W]	50
Ambient humidity	90%RH max.

* Extra load should be connected via contactor to the relay output.
Controllers conforms to requirements of standards EN 61010-1+A2:2000, EN 50081-1:1995, EN 55022:2000 and carries CE mark.

Connection

Terminals L1in, L2in and L3in.
Supply voltage: 380-415V AC, 3 phase, 50-60Hz. Maximum current 25A/phase. EKR15.1 can control both symmetrical Y-connected 3-phase heaters and symmetrical or asymmetrical Δ-connected heaters.
N.B. The supply voltage to EKR15.1 should be wired via an all phase breaker with a minimum contact gap of 3mm. Switch must be marked in accordance with local regulations. EKR15.1 must be grounded. Switch and the mains cable must be selected by the power of load. Maximum load 25A. Switch and the mains cable must be located near controller EKR15.1 and marked in accordance with local regulations. **Open controller AFTER it has been separated from the mains.**
⏚!Specification: ⚠attention, grounding.
Load
Terminals L1out, L2out and L3out.
Resistive 3-phase heater without neutral. Maximum load – 25A. Minimum load - phase-phase voltage – 4A.

1. **Load connection Fig. 1 page 12**
2. **Extra load Fig. 2 page 12**
3. **Main sensor Fig. 3 page 12**
4. **Temperature limit sensor Fig. 4 page 12**
5. **Main sensor Fig. 5 page 12**
   A. **Internal setpoint**
   B. **External setpoint**
6. **Temperature limit sensor Fig. 6 page 12**
   A. **Internal setpoint**
   B. **External setpoint**
7. **External control signal Fig. 7 page 12**

Marking

Night	Temperature reducing setpoint when timer is used.
Min	Supply air temperature minimum setpoint, when limit sensor is used.
Max	Supply air temperature maximum setpoint, when limit sensor is used.
TJK10K	Duct temperature sensor NTC10K.
F, F1	Automatic circuit breaker.
TR5K	External temperature setpoint.

Installation

EKR15.1 is mounted on the wall in vertical position. Protection class: IP20. **ATTENTION: after selecting heater control mode (sensors, 0-10V) IT'S NECESSARY to turn on micro switch.**

Indication

1. LED6
Lit – power supply ON, not lit – power supply OFF.
Flashing 1 time within second – sensors fault, 2 times within second – load current overload, 3 times within second – controllers thermo protection active.
2. LED5
Flashing – load control indication.

Troubleshooting

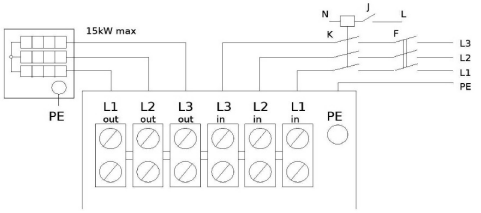
1. Check if all wiring is correct and that the sensor selector switches are in the correct position. Check with a clamp-on ammeter that current flows to the EKR15.1.
2. Check if current flows to the heater.
3. Remove wiring to external sensor. The sensor resistance varies between 10kΩ and 15kΩ, between the upper and lower ends of the sensor temperature range.

Warranty

1. Manufacture declare 2 years warranty term from the date of manufacturers invoice. Warranty is applied in case if all requirements of transporting, storing, installation and electrical connection are fulfilled.
2. In case of damaged or faulty product during warranty term customer must inform producer in 5 days and deliver product to manufacture as soon as possible at customer's costs. In other case warranty is not valid.
3. Manufacture is not responsible for damages which occur during transportation or installation.

Producer reserve the right to change technical data

1



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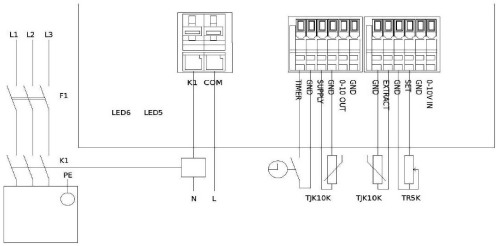

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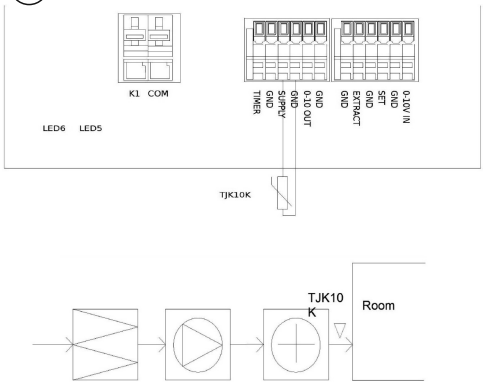

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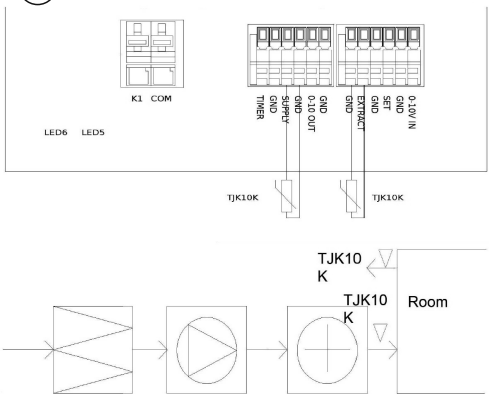

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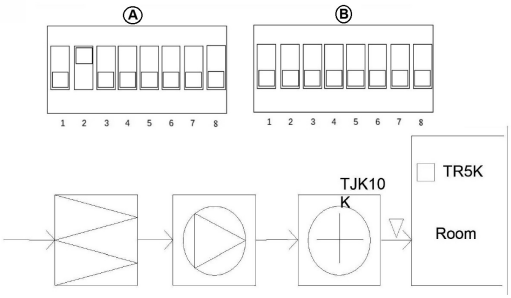

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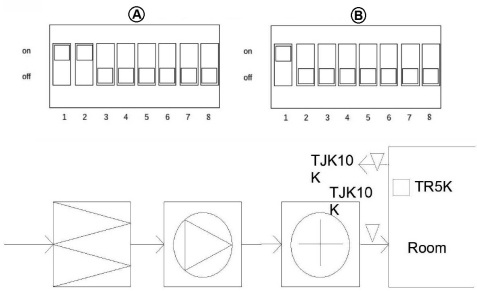

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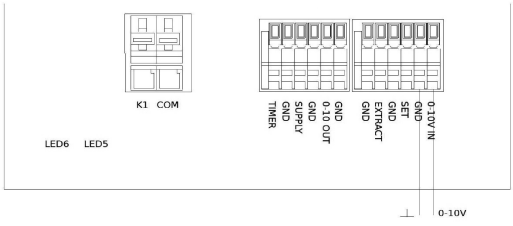

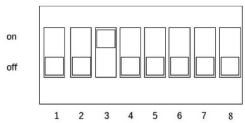

0-10 VDC