



**CTR-X/D is an electric heating controller for controlling electric heating batteries, electric panels etc. The controller is controlled by an external signal from a DDC or other controller**

- \* For loads up to 3.6kW (230 V) or 6.4kW (400 V)
- \* For control signal 0...10 V
- \* Automatic supply voltage adaption 230/400 V
- \* DIN-rail mounting
- \* Protection class IP20
- \* Manual mode 0...100% with TBI-100

## Function

CTR-X/D is an electric heating controller (triac control) for single phase (230V) or two phase (400V) electric heating. It is intended primarily for DIN-mounting and is connected in series between power supply and an electric heater, for example an electric heating battery or electric panel.

The controller utilises time-proportional control, the ratio between On-time and Off-time is varied to fit the prevailing heating requirement e.g. when using control signal 5 V and cycle-time 60 sec (ON = 30 s and OFF = 30 s) gives 50% output power. The cycle-time (the sum of on-time and off-time) is settable in 6, 60 or 120 seconds.

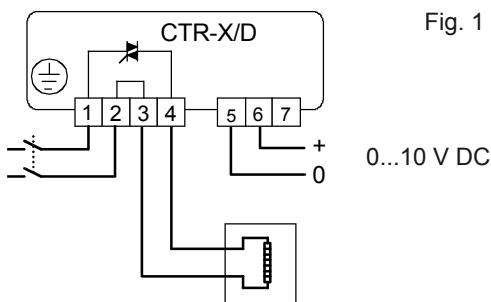
The control accuracy is better when using triac-control and it also contributes to reduced energy costs. Increased comfort due to an even temperature is another benefit.

Since the current is switched by a semiconductor (triac) there are no moving parts that can wear out. The current is switched at zero phase angle, to eliminate network disturbance.

## Technical data

Supply voltage	210...415 V AC (automatic adaption to supplied voltage)
Control signal	0...10 V DC
Pulse period	Settable to 6 sec. 60 sec. or 120 seconds
Load	Max. 16 A, Min. 1 A At 230 V the maximum load is 3,6 kW and the minimum load 230 W At 400 V the maximum load is 6,4 kW and the minimum load 400 W
Power dissipation	20 W at full load
Ambient temperature	0...30°C, not condensing
Ambient humidity	Max. 90% rH
Storage temperature	-40...+50°C
CE	This product conforms with the requirements of European EMC standard CENELEC EN61000-6-3 and EN61000-6-2, European LVD standards IEC669-1 och IEC669-2-1 and carries the CE mark.
Protection class	IP20

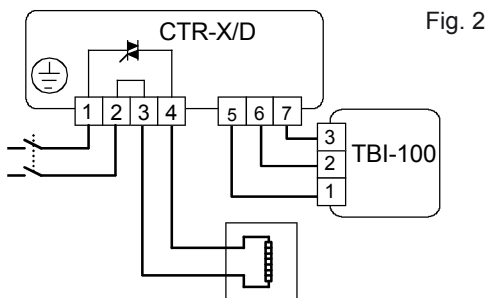
## Wiring



### External control signal (figure 1)

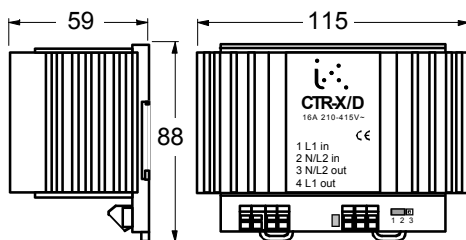
Terminal 1...2, Supply voltage (not polarity sensitive)  
Terminal 3...4 = Load  
Terminal 5 = Signal neutral  
Terminal 6 = 0...10 V DC

The control signal-terminal is galvanically separated from the supply voltage. The wiring should be as short as possible (<25 m), to minimize the risk for external disturbance.



### Manually settable modulation (figure 2)

CTR-X/D can be used with manually settable modulation. Terminal 7 has +10 V DC output signal. By connecting a TBI-100 according to fig. 2, the CTR-X/D can be set to 0...100% modulation by means of the knob.



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