

ITRS

Electronic fan speed controller with TK



The ITRS9 series of electronic speed controllers regulate the speed of single-phase (110–240 VAC / 50–60 Hz) voltage controllable motors by varying the supplied voltage. The ITRS9 controllers offer automatic power supply detection, thermal contacts (TK) for motor overheating protection, an alarm output, NO (open contact) and NC (closed contact) inputs for remote start / stop. The minimum and maximum speed are internally adjusted via trimmers. The series features an unregulated output for connecting a valve, lamp, damper, etc. The output is regulated by a potentiometer in the range between the minimum output voltage and the supply voltage. There are two start-up modes - kick start and soft start, selectable via a jumper.

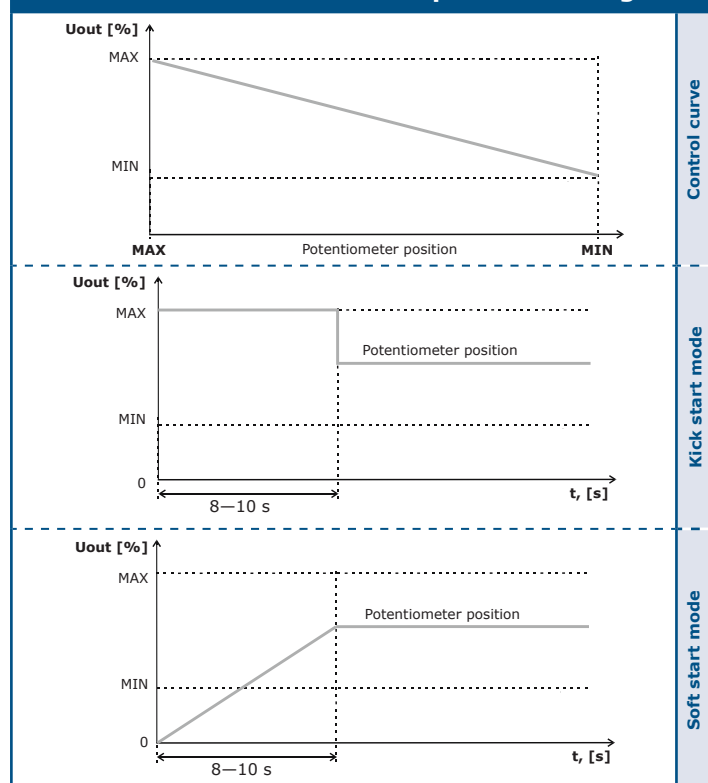
Key features

- Wide power supply range (110–240 VAC / 50–60 Hz)
- Automatic supply voltage detection
- Adjustable stepless output voltage
- 230 VAC alarm output
- TK monitoring for thermal motor protection
- Contacts for remote on / off switching
- Minimum and maximum speed adjustable by internal trimmers
- Overheating motor protection
- Kick start or soft start
- Illuminated on/off switch
- Operating and fault detection LED indications

Technical specifications

Power supply, Us	110–240 VAC / 50–60 Hz	
Regulated output	MIN–MAX (Umin–Umax)	
Maximum load	depends on the version	
Unregulated output	230 VAC / Imax. 2 A	
Minimum output voltage, MIN	30–60 % of Us	
Maximum output voltage, MAX	70–100 % of Us	
Alarm output	Imax. 0,5 A	
Kick start duration	8–10 s	
Protection	Motor overheating	
Protection standard	IP54 (according to EN 60529)	
Ambient conditions	Temperature	–20–35 °C
	Rel. humidity	5–95 % rH (non-condensing)

Operational diagrams



Article codes

	Rated max. current, [A]	Fuse (5*20 mm), [A]
ITRS9-15-DT	1,5	F 3,15 A H 250 VAC
ITRS9-30-DT	3,0	F 5,0 A H 250 VAC
ITRS9-50-DT	5,0	F 8,0 A H 250 VAC
ITRS9-60-DT	6,0	(6,3*32) F 10,0 A H 250 VAC
ITRS9100-DT	10,0	(6,3*32) F 16,0 A H 250 VAC

Area of use

- Fan speed control of voltage controllable motors in ventilation systems
- For indoor use only

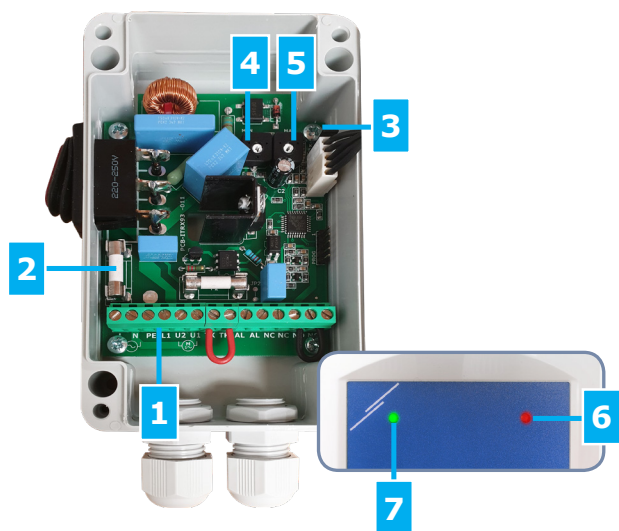
Standards

- Low Voltage Directive 2014/35/EU
- EMC Directive 2014/30/EU: EN 61000-6-3:2007/A1:2011/AC:2012
- WEEE Directive 2012/19/EU
- RoHS Directive 2011/65/EU

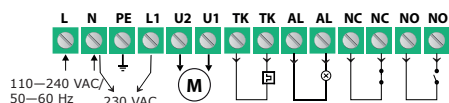


Legend

ITRS9-15-DT, ITRS9-30-DT



1 - Terminal block



2 - Fuse



3 - Kick start selection jumper



Kick start is enabled

Soft start is enabled

4 - Minimum speed trimmer



Adjusts the min. speed
(factory preset to 45 % of Us)

5 - Maximum speed trimmer



Adjusts the max. speed
(factory preset to 100 % of Us)

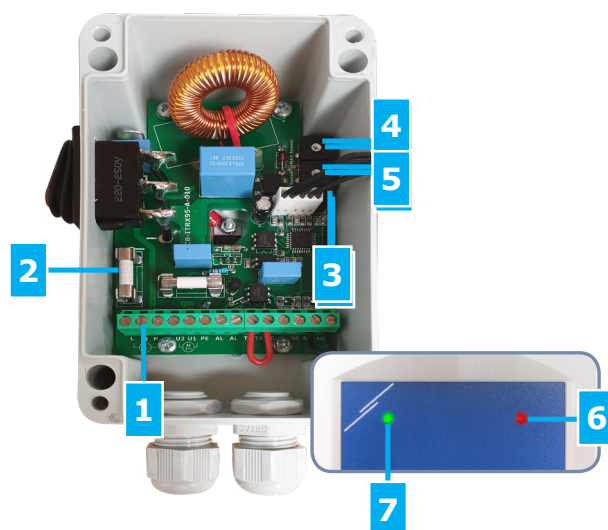
LED indications

6 - Red LED	On	TK detection. The motor is overheated and the controller stops. The alarm output is activated. Restart the controller via the illuminated On/Off switch.
7 - Green LED	On	Normal operation
	Blinking	NC or NO contact is activated. The controller stops.
6 and 7	Alternating	The potentiometer is disconnected. The controller stops.

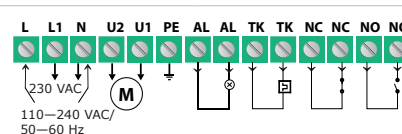
*  indicates closed position of the jumper.

Legend

ITRS9-50-DT



1 - Terminal block



2 - Fuse



3 - Kick start selection jumper



Kick start is enabled

Soft start is enabled

4 - Minimum speed trimmer



Adjusts the min. speed
(factory preset to 45 % of Us)

5 - Maximum speed trimmer



Adjusts the max. speed
(factory preset to 100 % of Us)

LED indications

6 - Red LED	On	TK detection. The motor is overheated and the controller stops. The alarm output is activated. Restart the controller via the illuminated On/Off switch.
7 - Green LED	On	Normal operation
	Blinking	NC or NO contact is activated. The controller stops.
6 and 7	Alternating	The potentiometer is disconnected. The controller stops.

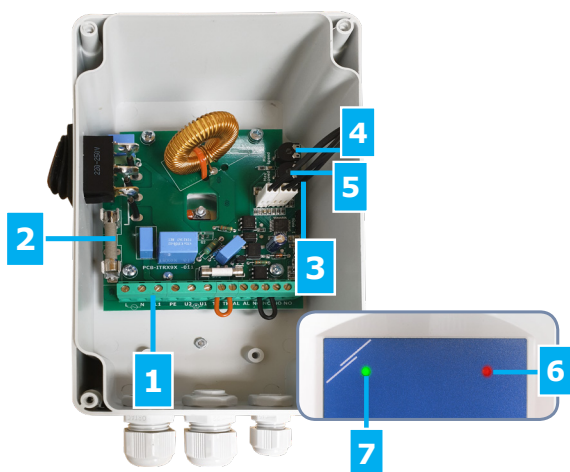
*  indicates closed position of the jumper.

ITRS

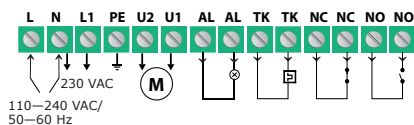
Electronic fan speed controller with TK

Legend

ITRS9-60-DT, ITRS9100-DT



1 - Terminal block



2 - Fuse



3 - Kick start selection jumper



Kick start is enabled



Soft start is enabled

4 - Minimum speed trimmer



Adjusts the min. speed
(factory preset to 45 % of Us)

5 - Maximum speed trimmer



Adjusts the max. speed
(factory preset to 100 % of Us)

LED indications

6 - Red LED

On

TK detection. The motor is overheated and the controller stops.
The alarm output is activated.
Restart the controller via the illuminated On/Off switch.

7 - Green LED

On

Normal operation

Blinking

NC or NO contact is activated. The controller stops.

6 and 7

Alternating

The potentiometer is disconnected. The controller stops.

*  indicates closed position of the jumper.

Wiring and connections

ITRS9-15-DT, ITRS9-30-DT

L	Power supply, line (110—240 VAC / 50—60 Hz)
N	Power supply and unregulated output, neutral
PE	Protective earth
L1	Unregulated output, line
U2	Regulated output to motor, line
U1	Regulated output to motor, neutral
TK	Input - TK monitoring for thermal motor protection
TK	
AL	Alarm output (230 VAC / 0,5 A)
AL	
NC	Input - normally closed contact for remote ON / OFF switching
NC	
NO	Input - normally open contact for remote ON / OFF switching
NO	

ITRS9-50-DT

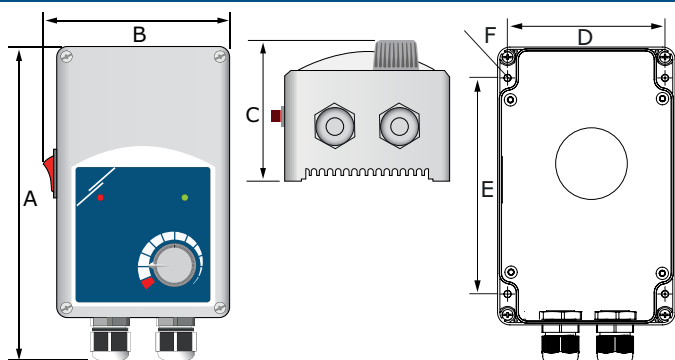
L	Power supply, line (110—240 VAC / 50—60 Hz)
L1	Unregulated output, line
N	Power supply and unregulated output, neutral
U2	Regulated output to motor, line
U1	Regulated output to motor, neutral
PE	Protective earth
AL	Alarm output (230 VAC / 0,5 A)
AL	
TK	Input - TK monitoring for thermal motor protection
TK	
NC	Input - normally closed contact for remote ON / OFF switching
NC	
NO	Input - normally open contact for remote ON / OFF switching
NO	

ITRS9-60-DT, ITRS9100-DT

L	Power supply, line (110—240 VAC / 50—60 Hz)
N	Power supply and unregulated output, neutral
L1	Unregulated output, line
PE	Protective earth
U2	Regulated output to motor, line
U1	Regulated output to motor, neutral
TK	Input - TK monitoring for thermal motor protection
TK	
AL	Alarm output (230 VAC / 0,5 A)
AL	
NC	Input - normally closed contact for remote ON / OFF switching
NC	
NO	Input - normally open contact for remote ON / OFF switching
NO	

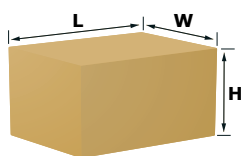


Fixing and dimensions



Article code	A	B	C	D	E	F
ITRS9-15-DT ITRS9-30-DT	162 mm	96 mm	75 mm	71 mm	108,8 mm	Ø 4,2
ITRS9-50-DT	162 mm	96 mm	93 mm	71 mm	108,8 mm	Ø 4,2
ITRS9-60-DT ITRS9100-DT	205 mm	124 mm	97 mm	102 mm	140 mm	Ø 4,6

Packaging



Article code	Packaging	Length [mm]	Width [mm]	Height [mm]	Net weight	Gross weight
ITRS9-15-DT	Unit (1 pc.)	175	96	95	0,41 kg	0,47 kg
	Box (24 pcs.)	590	380	280	9,9 kg	12 kg
ITRS9-30-DT	Unit (1 pc.)	175	96	95	0,45 kg	0,51 kg
	Box (24 pcs.)	590	380	280	10,9 kg	13 kg
ITRS9-50-DT	Unit (1 pc.)	175	96	95	0,64 kg	0,70 kg
	Box (24 pcs.)	590	380	280	15,4 kg	17,5 kg
ITRS9-60-DT	Unit (1 pc.)	210	130	110	0,83 kg	0,92 kg
	Box (15 pcs.)	540	405	245	12,42 kg	14,64 kg
ITRS9100-DT	Unit (1 pc.)	210	130	110	0,95 kg	1,04 kg
	Box (15 pcs.)	540	405	245	14,25 kg	16,44 kg