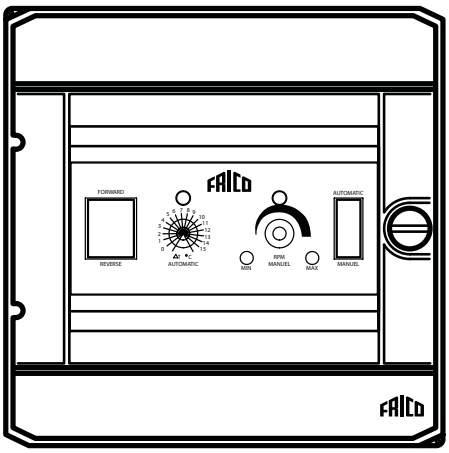
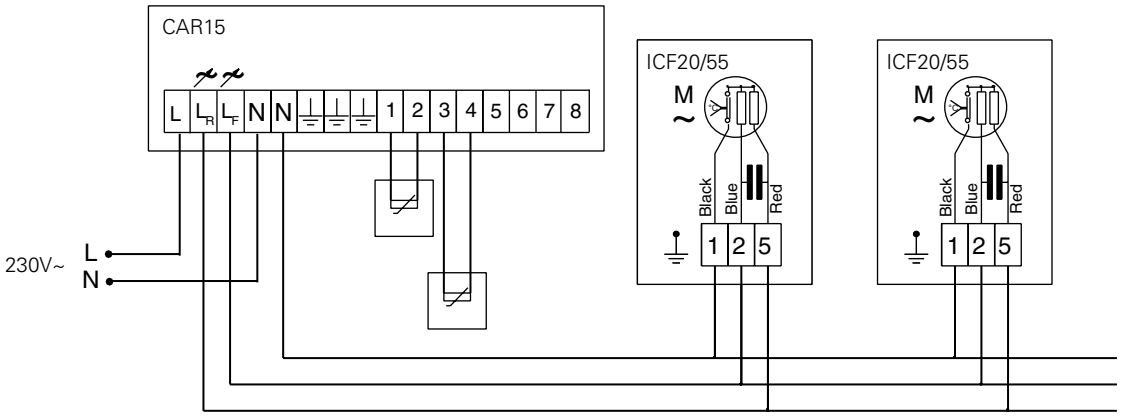
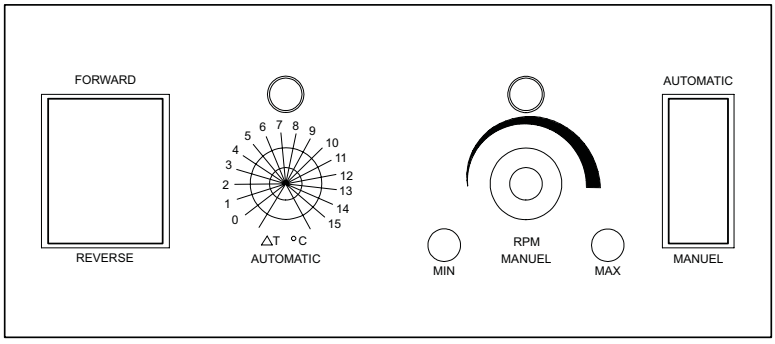
CAR 15





Connections:

L = Phase in.
LF = Regulated voltage to fan motor for forward rotation. (FORWARD)
LR = Regulated voltage to fan motor for backward rotation (REVERSE).
N = Neutral in.
N = Neutral out.
PE = Ground for phase in.
PE = Ground for LF or LR out.
PE = Ground for control signals.
1 = Temp. sensor ceiling + (top).
2 = Temp. sensor ceiling - (top).
3 = Temp. sensor room/floor + (bottom).
4 = Temp. sensor room/floor - (bottom).<
5 = 0 to +10VDC in.
6 = GND (för 0 to +10VDC in).
7 = Select in. Connected to terminal 8 for analog signal 0 to +10Vdc in.
8 = GND (for Select in).



Operation:

CAR15 adapts the fan speed according to the temperaure difference between two temperature sensors. The room sensor is placed in a representative location in the occupied zone, approx. 0,5 m above the floor level. The ceiling sensor is placed on to the ceiling, preferably higher than the fans, but not directly above.
Up to 15 pcs of ceiling fans (Frico ICF) can be connected to the CAR15 .

Regulation:

General description:
The regulator shall be well ventilated (at least 50cm free space around the unit). CAR15 can during operation make a buzzing sound, placement of the control should be chosen with consideration to this.

Settings:
The knob ”AUTOMATIC” is used to set the range of max. temp. difference. If the "AUTOMATIC" knob is set to 15°C it means that if the temperature difference between the sensors is 15°C the fans will run on MAX-speed and with a difference of 0°C the fans will run on MIN-speed.
The knob "AUTOMATIC" is in use if the right switch is set in "AUTOMATIC" position and if no closing contact is connected to terminals 7 and 8. If there is a closing contact connected to terminals 7 and 8, the terminals 5 and 6 can be in use for an external 0-10VDC signal.
Note! this is only possible if the right switch is set in "AUTOMATIC" position.
The knob "MANUEL" is used for overrunning the temperature sensors and to manually adjust the fan speed. "MANUEL" is in use if the right switch is set in "MANUEL" position

For adjustement of the min- or max fan speed, use the potentiometers "MIN" or "MAX" (use a small screwdriver). This setting is valid for all options.
Note! The fans shall always be rotating, even if only slowly to avoid overheating of the motor.

The fans can run both forward, pushing the cushion of warm air from the ceiling and reverse, to ventilate in summer operation
When fans are used backwards, the control will only work in manual mode. Use the switch on the left hand side to change the rotation of the fans.
Note! Change of rotation may only be done while fans are standing still.

Temperature sensor:

General description:
The two temperature sensors in the delivery are of the same kind. The sensors shall be well ventilated (allowing airflow through the casing)
The sensors shall be mounted vertically, not disturbed or affected by the ventilation system, sunlight or other heating/cooling sources. If the sensor is going to be mounted on a surface which in turn can affect the temperature (like a concrete pillar or similar) it´s recommended to use some kind of heat insulated plate between the sensor and surface. (wood/ plastic foam etc.).

Ceiling sensor:
The sensor shall be mounted as close to the ceiling as possible.
Connected to terminals 1 and 2.

Room/floor sensor:
The sensor shall be mounted approx. 0,5 m above the floor level.
Connected to terminals 3 and 4.

Electrical specifications:

Voltage:	230VAC ±10%, 50Hz ±1Hz.
Internal fuse:	6,3AT.
Max number of fans:	15 pcs 70W (0,31A).
External signal:	0 - +10VDC (250µA).
Ambient temperature:	+5°C to +45°C, dry indoor inviroment.
Protection class:	IP31.
Measures:	L=210mm, H=210mm, Dj=100mm.
Knock-outs:	4 pcs Ø22mm, on the bottom side of the casing
Connecting cables:	Connections shall be made by screened cables (for fan motor type EKLK or similar) (for sensors type EKLK, FKAR-PG, PFSK FLFK or similar). All low signals to CAR-15 are galvanically separated from the mains ie from 230VAC.

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