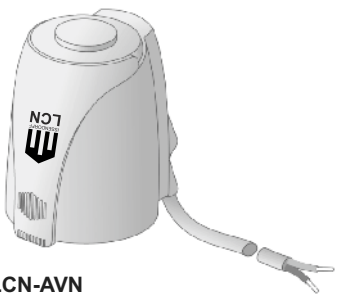
Actuator for heating and air-conditioning

The actuator **LCN-AVN** for main voltage, offers a cheap possibility, to control a valve almost continously. LCN modules after year of manufacture 6/2008, are supplied with a pulse package controller (the main voltage is pulsed-phase synchronous) on the electronic outputs.

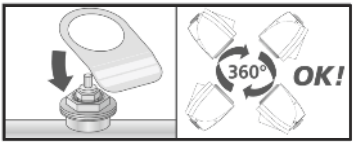
The actuator **LCN-AVC** with 24V power supply and 0-10V control is operated when several radiators in large rooms are to be controlled with the same regulator. the actuator opens and closes its valves proportional to the input signal (0-10V), so that all the heating circuits in the room, give out the same heating capacity.

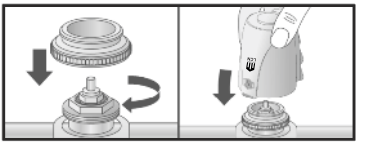


LCN-AVN

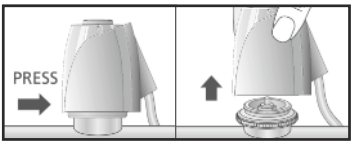
LCN-AVC

Installation:



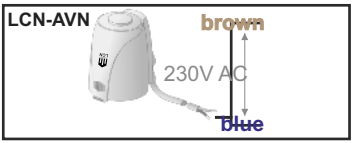


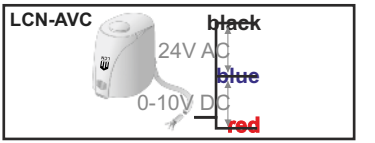
Deinstallation:



Deinstallation protection:

Connection:





Notes:

Valve adaptation:

The actuators LCN-AVN/-AVC are delivered with a universal plastic adapter VA80 (Heimeier). These cover around 80% of the market.

Optionally you can obtain the valve adapter VA78 (Danfoss RA, 23mm Inside diameter) or the valve adapter VA16H (Herz, 28mm x 1,5) and even further types on request.

LCN-AVN:

The valid safety-/VDE- regulations for main voltages should be applied. Especially with 0,75mm² connecting cables over 10 metres.

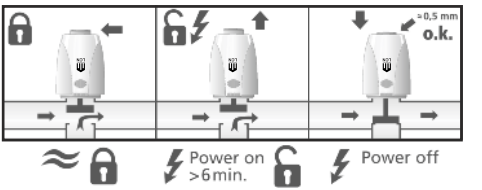
LCN-AVC:

closing point control: Every 24 hours, the LCN-AVC carries out a closing point control.

stand-by: When the control voltage decreases under 0,1V, the stretch fabric element will be kept to a stand-by temperature for 24 minutes. Through this, the actuator will react faster when being regulated. After 24 minutes under 0,1V, the valve will switch off the stand-by operation.

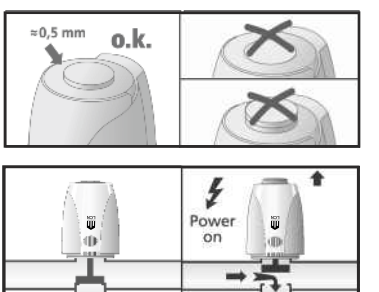
First open Function (only LCN-AVN):

The actuator is through the “first-open” function, without voltage and open when delivered. This makes it possible for heating operation in the shell construction phase, even when the electrical wiring for the single room regulation is not complete. When putting into operation at a later stage and applying the operating voltage (longer than 6 min.), the first-open function will be unlocked and the actuator is fully operational (without voltage,closed).



Adaption control (only LCN-AVC):

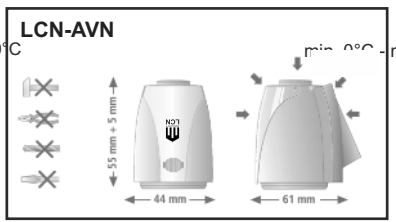
To be able to compensate tolerances with the valves and aging of the rubber seals, a so called “over hub” (hub reserve) has to be available.

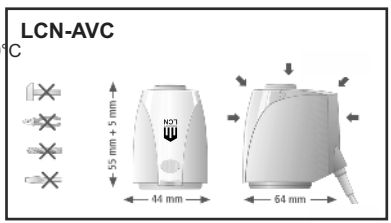


How it functions (LCN-AVN + LCN-AVC):

The body mechanic works with a PTC-heated stretch fabric element and a pressure spring. The stretch fabric element is heated when the operating voltage is applied and the intregated plunger is moved through this (OPEN/CLOSE in approx 3 min). The arising force caused through the movement, is transferred to the valve plunger and opens or closes the valve. the LCN-AVN has a marking on the plunger, so that this is visible in an opened state. The LCN-AVC is completely one coloured, without a coloured ring.

environmental temperature and dimensions:





Technical data

LCN-AVN

how it works:	electrical thermal actuator
operating voltage:	230V AC ±15%, 50-60Hz (no voltage, closed)
operating power, -current:	1,8W, 8mA
activity force:	100N +/-5%
closing-/opening durations:	approx. 3 min.
protection class/-degree:	II / IP54
environmental temperature:	0 °C to +60 °C
connecting cable:	fine wire 2 x 0,75mm^2 with end-sleeves, length: 1m

LCN-AVC

how it works:	electrical thermal actuator (proportional)
operating-, control voltage:	24V AC, 50-60Hz, 0-10V DC (no voltage, closed)
operating power, -current:	1,8W, 75mA
control currency:	90µA DC (on the ECG-interface max. 5 pcs. per output, can be operated parallel)
activity force:	100N +/-5%
closing/opening durations:	approx. 3 Min.
protection class/-degree:	II / IP54
environmental temperature:	0 °C to +60 °C
connecting cable:	fine wire 3 x 0,22mm^2 with end-sleeves, length: 1m