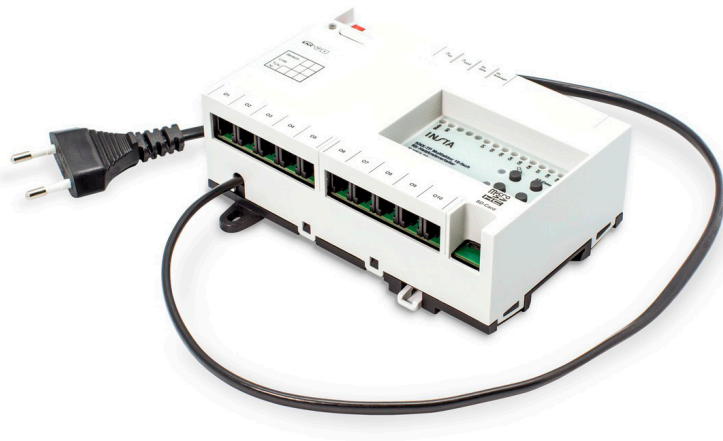


## KNX Multi actuator for surface heating and cooling

Art.-no. 13512600



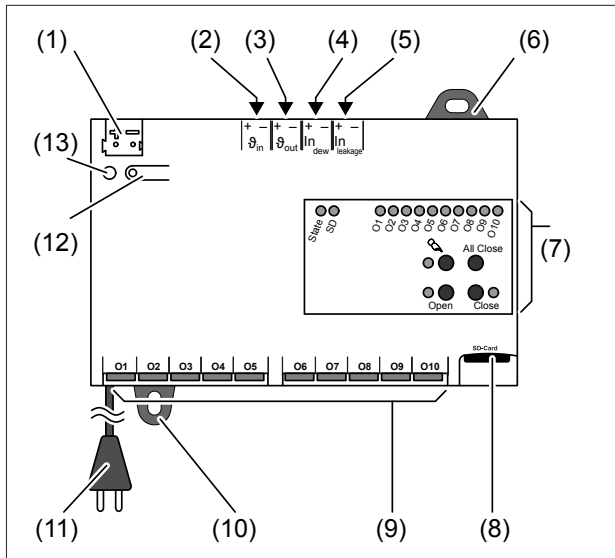
Allows system integrators to commission underfloor heating without extensive knowledge of hydraulics or control technology.

### Product features

- › Adaptive PID-controller heating/cooling (up to 10)
- › Use of MSA-ECO motor actuators – thus
  - Energy demand only if command value is changed
  - No aging – reproducible results throughout the lifespan
  - Detailed status information
- › Support of hydraulic calibration
- › Return flow temperature control
- › Intelligent sensor compensation
- › Heat requirement control / pump control
- › Integrated data logging possible
- › Bypass-function for heat pump
- › Manual operation
- › All connections pluggable – simple mounting
- › Can be mounted on flat surfaces as well as on a DIN rail



## Device components



(1)	Bus terminal
(2)	Flow temperature
(3)	Return flow temperature
(4)	Dew point sensor
(5)	Leakage sensor
(6) (10)	Fixing lug
(7)	Manual control, status displays
(8)	SD card slot
(9)	Outputs (MSA-ECO), RJ-10
(11)	Mains connection
(12) (13)	Programming button, LED

## Functions in detail

### Adaptive controller (10) with summer/winter compensation (patented solution)

- › No overshooting, optimised control behaviour, fast commissioning

### Support of hydraulic calibration (patented solution)

- › Prerequisite: measurement of flow/return flow temperature

### Return flow temperature control

Prerequisite: measurement of flow/return flow temperature

- › Optimum use of the heating value effect of the boiler
- › Uniform heat distribution in all rooms
- › Underfloor heating works efficiently even without setting the volume flow limitation in the heating circuit distributor
- › Minimisation of line losses
- › Operating modes: control
  - of the spread between the flow and return flow temperature or
  - of the return flow temperature to a fixed value

### Intelligent sensor compensation (patented process)

- › Compensation of sensor sluggishness (e.g. sensor in operating device)
- › Substantially faster detection of temperature jumps through intelligent algorithms
- > Fast controller response = better control result

## **Use of motor actuators**

- › Energy demand only if command value is changed (energy optimised)
- › Reproducible results throughout the lifespan (no aging)
- › Very long lifespan in conjunction with an adaptive controller (expected: 10 years with adaptive control)
- › Detailed status information per MSA-ECO
  - > Optimal support for facility management
    - Forced position active/inactive
    - Manual operation active/inactive
    - Service mode active/inactive
    - Valve rinsing active/inactive
    - Blockade yes/no
    - Command value status (closed/not closed)
    - Operating hours counter

## **Heat requirement control and pump control**

### **Integrated data logging possible**

(SD card, not included in the scope of delivery)

- › Log interval: 10 min
- › Channel-oriented data blocks
  - Channel number
  - Room temperature actual value
  - Room temperature setpoint
  - Command value
  - Window status
- › Channel-independent data blocks
  - Outdoor humidity (via KNX)
  - Outdoor temperature (via KNX)
  - Global radiation (via KNX)
  - Date/time (via KNX)
  - Flow temperature
  - Return flow temperature
  - Largest command value
  - Status dew point/leakage alarm
  - Status bus voltage




## **Bypass for heat pump via defined channel**

## **Temperature measurement with calibrated sensors (1-wire)**

## Technical data

Rated voltage HNX	AC 230 V
Mains frequency	50 / 60 Hz
Current consumption	Standby approx. 8 ... 17 mA
Protection class	II
Ambient temperature	-5 ... +45 °C
Storage/transport temperature	-25 ... +70 °C
Relative humidity	max. 93 % (no condensation)
Degree of protection	IP 20
KNX medium	TP256
Commissioning mode	S-mode
Rated voltage HNX	DC 21 ... 32 V SELV
Current consumption HNX	2.7 ... 7.5 mA
Dimensions W x H x D	approx. 144 x 90 x 50 mm
Fitting width	144 mm (8 module)
Sensor connection	finely stranded with wire end sleeves (0.5 ... 1.0 mm <sup>2</sup> )
Memory card	Micro SDHC, max. 32 GB
Formatting	FAT32

## Accessories

	Article designation	Article number
	MSA-ECO motor actuator	11001500
	Dew sensor BTS.01	11001211
	Leakage sensor LTS.01	11001210

Temperature sensor 1-wire for heating circuit flow/return, (e.g. ESERA, [www.esera.de](http://www.esera.de))