

**SIEMENS**  
Ingenuity for life

High-performance  
switching actuators

Wide-ranging applications – efficient installation  
and set-up – operation for many years

The worldwide  
standard for  
home and  
building control



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#### Switching actuators

The new switching actuators, featuring four, eight and twelve channels each for 6, 10 and 16/20 amperes, can handle capacitive, inductive and resistive loads. Stand-out features include maintenance-free terminals for rapid connection and simple looping-through of untreated conductors.

#### Control, monitoring and diagnostic functions

The basic function of switching with status message can be extended by logical and timer functions via ETS, as well as override functions such as manual ON, continuous OFF, or priority control. The diagnostic functions also allow monitoring of limit values based on operating hours elapsed and switching cycles.

#### Switching with analog control values

As an alternative to a binary input value (ON, OFF), for each switching channel an analog control value, e.g. temperature, percentage value, power (W, kW), illuminance (Lux) and integers can be converted directly into ON/OFF switching commands.

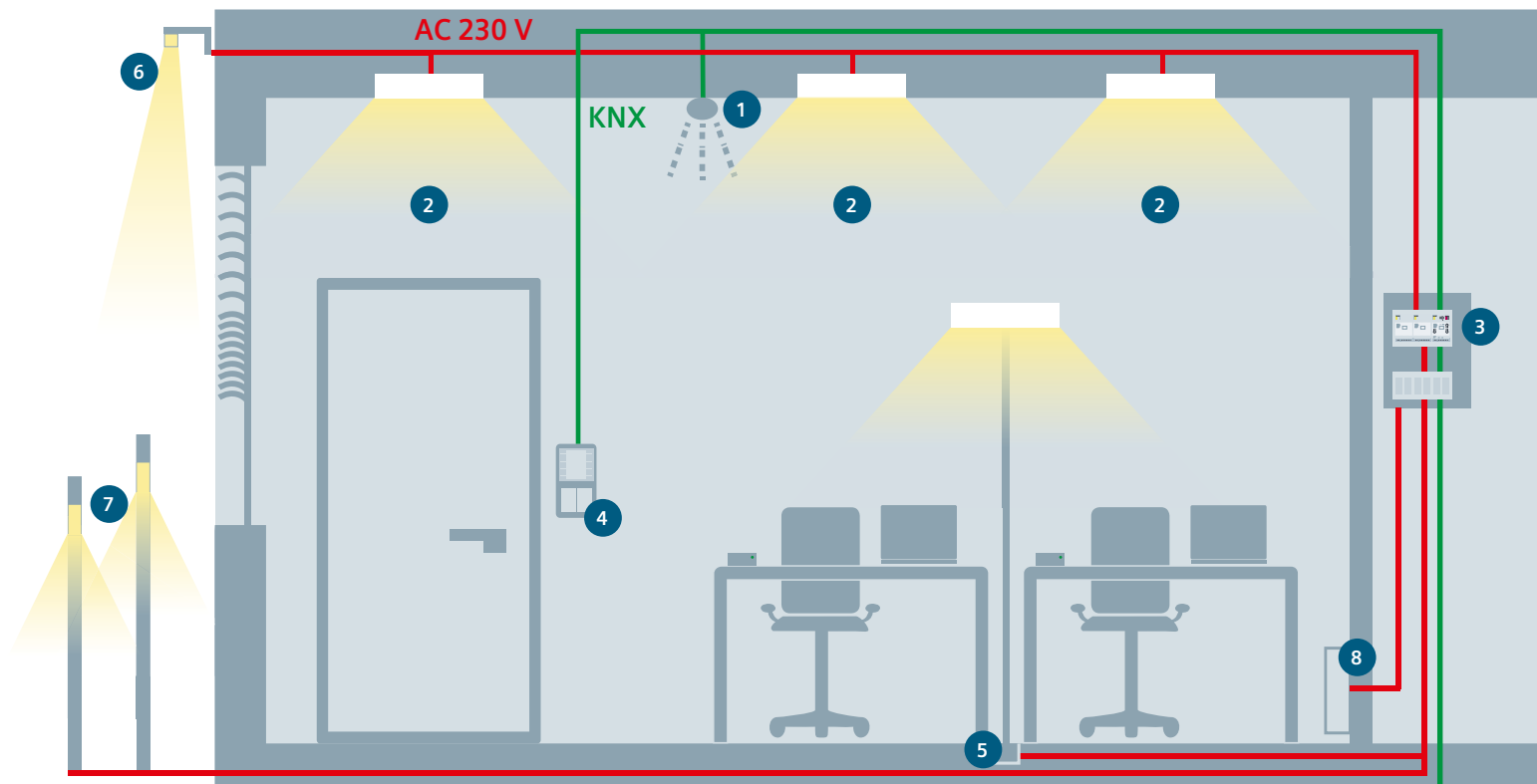
#### Reliability and efficiency

Siemens offers established and reliable building control technology products. All switching cycles can handle high inrush currents for capacitive loads up to 16/20 AX, while the device installation can be checked using display and operating elements as well as the test points of the new switching actuators with commonly used tools.

#### Highlights

- Maintenance-free terminals for time-saving wire installation
- Achieve high flexibility for individual system solutions with comprehensive automation functions
- Converting analog input values into switching commands (ON/OFF)
- Long-lasting and reliable switching of loads with a high inrush current
- Quick and simple testing of proper installation with standard tools and the operating elements of the device itself

# Typical switching actuator application



In the example illustrated, the new switching actuators (3) are used to switch the background lighting (2) in the room via presence detectors (1) or push-buttons (4). Both workplace lighting and PCs/monitors are supplied with electricity via a switched socket (5) in the floor box and can be switched on and off centrally for energy-efficient operation. Depending on brightness and time, the switching actuators can also be used to switch the outdoor lighting (6) and path lighting (7) on and off. The switching actuators also facilitate the presence-based and temperature-dependent control of ventilation and electrical heating (8).

## In-room applications

The new switching actuators are designed to handle resistive, inductive and capacitive loads and include comprehensive control, override and diagnostic functions. They also offer comprehensive automation functions, particularly for residential, office, hotel, school, industrial and branch buildings, for switching the following loads: electrical heating (up to 3.8 kW), underfloor heating, boilers, electrical sockets, lighting, e.g. LEDs, incandescent lamps, fluorescent lamps, low-voltage halogen lamps with upstream wound transformers, low-voltage halogen lamps and so on.

Thanks to high switching power, the new switching actuators also lend themselves for use in outdoor lighting, such as for car parks and buildings.

## Installing the switching actuators

The switching actuators are snapped onto a DIN rail. The maintenance-free push-in terminals allow for untreated solid, flexible and stranded conductors with conductor diameters ranging from 0.5 to 2.5 mm<sup>2</sup> to be connected and looped-through.



# Comprehensive automation functions

The switching actuators offer comprehensive control, override and diagnostic functions; usable without additional modules or controllers, control and monitoring functions, i.e. in the same device, and via which ETS can be activated.

Lighting such as LEDs, incandescent lamps and fluorescent lamps, can be switched on and off via display and control units or by evaluating sensor data.

## Control functions:

On/off switching commands are available for controlling and switching lighting and azd motors, as well as timing, scene and logic functions.

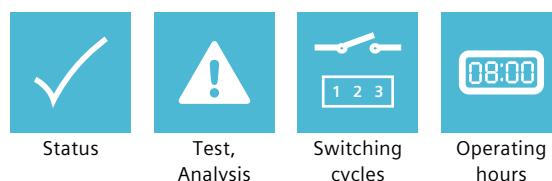
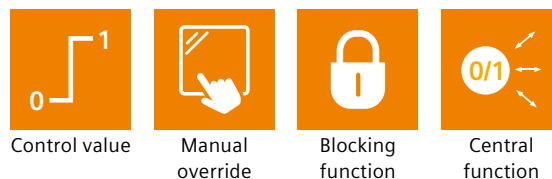
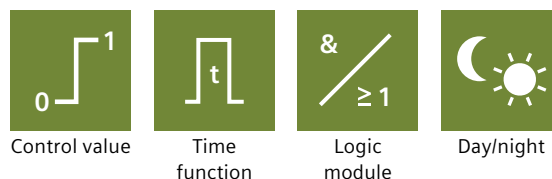
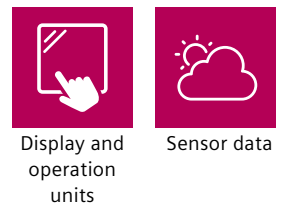
## Override functions:

User-defined scope to override lighting and motors by evaluating sensor data, manual intervention or by central function.

## Diagnostic functions

The switch actuator diagnostic and analytical functions are used to check device functions, device installation, operating hours and switching cycles.

All diagnostic functions can be displayed via monitors.



# Hardware features

Type	N 530D31	N 530D51	N 530D61	N 532D31	N 532D51	N 532D61	N 534D31	N 534D51	N 534D61
<b>Housing data</b>									
Design	N	N	N	N	N	N	N	N	N
Modular installation devices for mounting on TH35 EN 60715 mounting rail	■	■	■	■	■	■	■	■	■
<b>Dimensions</b>									
Width (1 MW = 18 mm)	4 TE	8 TE	12 TE	4 TE	8 TE	12 TE	4 TE	8 TE	12 TE
<b>Display/control elements</b>									
Mechanical local operation	■	■	■	■	■	■	■	■	■
Mechanical switching position indication	■	■	■	■	■	■	■	■	■
<b>Power supply</b>									
Bus-powered electronics	■	■	■	■	■	■	■	■	■
<b>Bus connection</b>									
Integrated bus coupling unit	■	■	■	■	■	■	■	■	■
Bus connection via bus terminal	■	■	■	■	■	■	■	■	■
<b>Outputs</b>									
<b>Load output</b>									
Floating relay contacts	4	8	12	4	8	12	4	8	12
Rated contact voltage, AC [V]	230	230	230	230	230	230	230	230	230
<b>Rated contact current</b>									
• AX (200 µF) acc. to EN 50428 [AX]	6 <sup>1)</sup>	6 <sup>1)</sup>	6 <sup>1)</sup>	10 <sup>2)</sup>	10 <sup>2)</sup>	10 <sup>2)</sup>	16/20	16/20	16/20
• AC1 (p.f. = 0.8) acc. to EN 50428 [A]	10	10	10	16	16	16	16	16	16
• AC1 (p.f. = 0.8) acc. to EN 50428 [A]	6	6	6	10	10	10	16	16	16
• 24 V DC (resistive load) [A]	6	6	6	10	10	10	10	10	10

AX: Refers to a capacitive fluorescent lamp load. In conjunction with fluorescent lamp loads, the switchable capacitive loads (200 µF, 140 µF, 70 µF or 35 µF) are specified.

Legend: <sup>1)</sup> at 70 µF <sup>2)</sup> at 140 µF <sup>3)</sup> on request

# Load data

Type	N 530D31	N 530D51	N 530D61	N 532D31	N 532D51	N 532D61	N 534D31	N 534D51	N 534D61
<b>Contact current</b>									
Rated current, AC [A]	6 AX			10 AX			16/20 AX		
AC3 operation (p.f. = 0.45) [VA]	2300			2500			3680		
Maximum switch-on peak current	400			400			600		
• t = 150µs [A]	320			320			480		
• t = 250µs [A]	200			200			300		
• t = 600µs [A]									
<b>Contact voltage</b>									
Rated voltage, AC [V]	230			230			230		
<b>Service life</b>									
Mechanical service life Switching operations in millions	1			1			1		
Electrical service life Switching operations in millions	3)			3)			3)		
<b>Power loss</b>									
Maximum power loss per device at rated power [W]	4	8	12	4	8	12	4	8	12
<b>Switching capacities/load types, loads</b>									
Resistive load [W]	2300			3680			3680		
Minimum switching capacity [V/mA]	12/100			12/100			12/100		
DC switching capacity [V/A]	24/10			24/10			24/10		
Maximum capacitive load [µF]	70			140			200		
<b>Incandescent lamps</b>									
Incandescent lamp [W]	2300			3680			3680		
Halogen lamp 230 V [W]	2300			3680			3680		
LV halogen lamp with conventional transformer (inductive) [VA]	500			500			2000		
<b>T5/T8 fl uorescent lamps</b>									
Uncompensated [VA]	1380			2300			3680		
Parallel-compensated (for max. possible C) [W]	1300			1300			2500		
DUO circuit [VA]	1380			2300			3680		
<b>Compact lamps</b>									
Uncompensated [VA]	1380			1600			3680		
Parallel corrected (at max. possible C) [W]	1100			1100			3000		

# All key data at a glance

## Common properties

### Switching actuators N 53.D.1

- One relay contact per output as switching element
- Rated contact operating voltage AC 230 V
- Rated contact frequency: 50 / 60 Hz
- Per output with mechanical display of the switching status via slide switches, which can also be used for direct manual operation of the switching output
- Maintenance-free terminals for connection and through-wiring of untreated single-core, stranded or multi-core conductors, 0.5 ... 2.5mm<sup>2</sup>
- One phase terminal per output
- Bus-powered electronics
- Integrated bus coupling unit, bus connection via bus terminal
- Red LED for display of the activation of the addressing mode as well as the operational readiness
- Housing: plastic, color RAL 7035 (light grey), N-system
- DIN rail mounted device for mounting on rail TH35 according to DIN EN 60715
- Type of protection: IP 20

## Functions per device

- Construction site switching function
- Object for monitoring the device function
- Object for the specific retrieval of status values

### Control functions

- selectable operating mode (normal mode, time switch mode, flashing mode)
- selectable relay mode (NC/NO)
- variable On and Off delay times
- two selectable logic operations (AND, OR, NAND, NOR, XOR, FILTER, TRIGGER)
- selectable switching state on bus voltage failure and selectable start value of the switching object on bus voltage recovery
- optional addition of a night mode object for time-limited switching On of the output, i.e. the illumination, at night

### Timed functions

- Variable On period at night or time switch mode
- selectable addition of an object to change the On period at night

- or time switch mode
- selectable post-triggering (1x, 2x, 3x, 4x, 5x) of the On period in time switch mode
- Selectable warning signal prior to imminent switching-off by brief off and on switching
- Flashing at night or in time switch mode and/or via an optional warning object

### Override functions

- For manual override ON
- For permanent OFF switching
- Blocking of the output
- For switching on or off in forced mode

### Diagnostic functions

- Counting of operating hours and threshold monitoring
- Counting of load cycles and threshold monitoring
- Integrated 8-bit scene control with up to 8 scenes per output

Type	Product title	DT	Order no.	PU (Unit, set M)	PS/P unit	PU	Weight per PU (kg)	Price
N 530D31	Switching actuator 4 x AC 230 V, 6 AX, C-load	A	5WG1530-1DB31	1	1		0.235	
N 530D51	Switching actuator 8 x AC 230 V, 6 AX, C-load	A	5WG1530-1DB51	1	1		0.430	
N 530D61	Switching actuator 12 x AC 230 V, 6 AX, C-load	A	5WG1530-1DB61	1	1		0.630	
N 532D31	Switching actuator 4 x AC 230 V, 10 AX, C-load	A	5WG1532-1DB31	1	1		0.235	
N 532D51	Switching actuator 8 x AC 230 V, 10 AX, C-load	A	5WG1532-1DB51	1	1		0.430	
N 532D61	Switching actuator 12 x AC 230 V, 10 AX, C-load	A	5WG1532-1DB61	1	1		0.630	
N 534D31	Switching actuator 4 x AC 230 V, 16/20 AX, C-load	A	5WG1534-1DB31	1	1		0.280	
N 534D51	Switching actuator 8 x AC 230 V, 16/20 AX, C-load	A	5WG1534-1DB51	1	1		0.525	
N 534D61	Switching actuator 12 x AC 230 V, 16/20 AX, C-load	A	5WG1534-1DB61	1	1		0.775	

## Technical data

### 5WG1530-1DB.1

Switching actuator 12 x AC 230 V,  
6 AX, C-Load

Rated contact current according to  
DIN EN 60669: 6 AX (70  $\mu$ F fluorescent  
lamp load), 10 A (resistive load)

Switching actuator 8 x AC 230 V,  
6 AX, C-Load

Rated contact current according to  
DIN EN 60669: 6 AX (70  $\mu$ F fluorescent  
lamp load), 10 A (resistive load)

Switching actuator 4 x AC 230 V,  
6 AX, C-Load

Rated contact current according to  
DIN EN 60669: 6 AX (70  $\mu$ F fluorescent  
lamp load), 10 A (resistive load)

### 5WG1532-1DB.1

Switching actuator 12 x AC 230 V,  
10 AX, C-Load

Rated contact current according to  
DIN EN 60669: 10 AX (140  $\mu$ F fluo-  
rescent lamp load), 16 A (resistive load)

Switching actuator 8 x AC 230 V,  
10 AX, C-Load

Rated contact current according to  
DIN EN 60669: 10 AX (140  $\mu$ F fluo-  
rescent lamp load), 16 A (resistive load)

Switching actuator 4 x AC 230 V,  
10 AX, C-Load

Rated contact current according to  
DIN EN 60669: 10 AX (140  $\mu$ F fluo-  
rescent lamp load), 16 A (resistive load)

### 5WG1534-1DB.1

Switching actuator 12 x AC 230 V,  
16/20 AX, C-Load

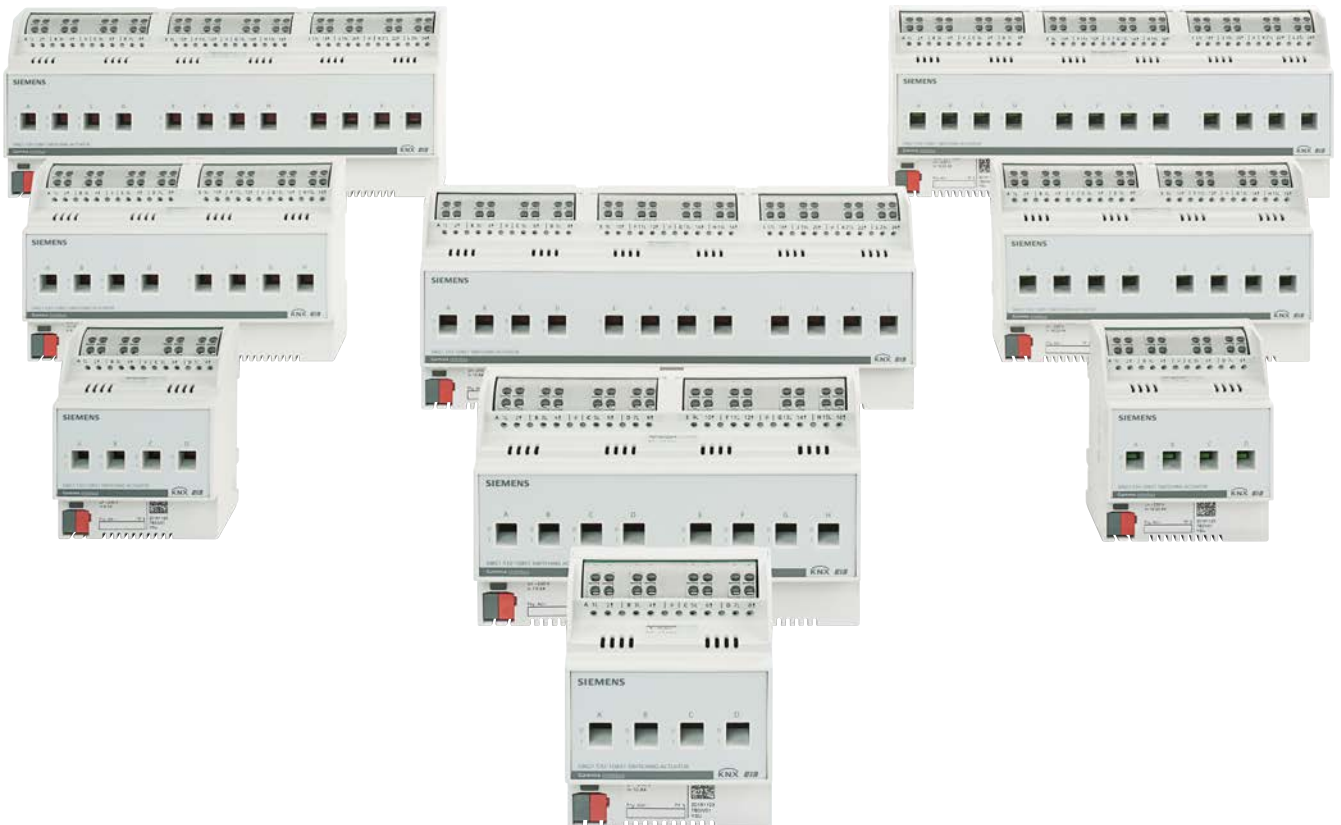
Rated contact current according to  
DIN EN 60669: 16 AX / 20 AX (200  $\mu$ F  
fluorescent lamp load)

Switching actuator 8 x AC 230 V,  
16/20 AX, C-Load

Rated contact current according to  
DIN EN 60669: 16 AX / 20 AX (200  $\mu$ F  
fluorescent lamp load))

Switching actuator 4 x AC 230 V,  
16 / 20 AX, C-Load

Rated contact current according to  
DIN EN 60669: 16 AX / 20 AX (200  $\mu$ F  
fluorescent lamp load)





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