

MODULAR DEVICES

The range of two, three and four pole isolator switches are of a modular design and fit on DIN 50022 rail. Terminal capacity is 25mm².

Isolator Switches

Rating	Poles	Modules	Reference
100A	2	2	ISOL2/100
125A	2	2	ISOL2/125
100A	3	3	ISOL3/100
100A	4	4	ISOL4/100
125A	4	4	ISOL4/125



DIN-rail mounted modular transformers with 8,12 or 24V outputs. Generally used as bell transformers, but the RK24 is suitable to power the DFA2 remote actuator. (page 15.)

Low Voltage (Bell) Transformers

Voltage	Amps	Modules	Reference
8V	1	2	RK81
4/8/12V	2/2/1.5	2	RK12
8/12/24V	2/1.3/0.6	2	RK24



The UNO time switch controls electrical appliances according to a 24-hour or 7-day programme. Programming is so simple that it can be carried out by the layman. The time switch can be mounted in a distribution box equipped with 35mm DIN-rails.

Time Switches (electromechanical)

Switching	Max. Load		Reserve	Modules	Reference
	Resistive	Inductive			
24 hour	16A	4A	No	1	TS UNO-D
24 hour	16A	4A	Yes	1	TS UNO-QRD
7 Day	16A	4A	Yes	1	TS UNO-QRS



The DATA MICRO electronic time switch has adjustable on/off pulses between 1 to 59s long. Current time and date as well as Summer/Winter change-over times are preset at the factory. There are 32 or 64 storage locations depending on the model. It can be mounted in a distribution box equipped with 35mm DIN-rails.

Time Switches (electronic with power reserve)

Switching	Max. Load		Storage Locations	Modules	Reference
	Resistive	Inductive			
24 hour & 7 Day	16A	10A	32	2	TS DMICRO+
24 hour & 7 Day	16A	10A	64	2	TS DMICRO2+



MODULAR DEVICES (CONTINUED)

Our contactor ratings have been designed for AC1 loads of 20amps, 40amps and 63amps. The 25, 40 & 63A products can be used in AC3 applications see page 44 for appropriate ratings.

Contactors				
Voltage	Amps	Module	Contacts	Reference
230	20	1	2 x normally open	HS20-20
230	20	1	1 x NO, 1 x NC	HS20-11
230	20	1	2 x normally closed	HS20-02
230	25	2	4 x normally open	HS25-40
230	40	3	4 x normally open	HS40-40
230	40	3	4 x normally closed	HS40-04
230	40	3	3 x NO, 1 x NC	HS40-31
230	63	3	4 x normally open	HS63-40
230	63	3	3 x NO, 1 x NC	HS63-31



Capable of switching loads of 3700W this adjustable twilight switch has an outstanding record of reliability. The unit has an LED status indicator and is capable of adjustment between 5 to 200 LUX.

Wall Mounting Twilight Switch		
Amps	Switching Capacity	Reference
16	3700W	DASY16

Note:

200 LUX is suitable for light controls only. For other applications requiring higher LUX values please contact the sales office for information.

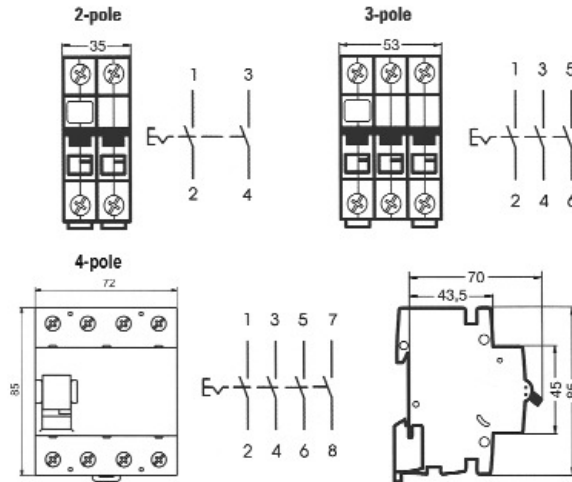
Circuit Protection

Isolator Switches

Technical Data

Dimensions and Contact Assignments

Rated voltage	230 / 400 V ~
Rated current	100A & 125A
Breaking capacity	1,25xI _n ; 1,1 x U _n ; cos = 0,6
Enclosure protection	conforming to DIN VDE 0106 Part 100
Short circuit resistance	10 ka
Terminal cross-section	1,5 to 25mm ²
Mounting	quick-snap to DIN EN 50022 rail



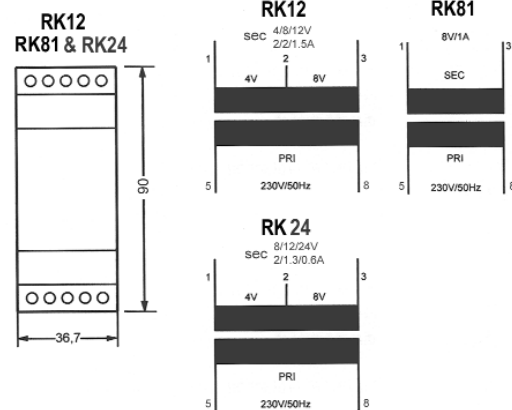
Bell Transformers

Technical Data

Dimensions

Contact Assignments

Primary voltage	230 V ~, 50 Hz
Duty cycle	100 % continuous duty
Housing	grey RAL 7035
Weight	240 to 375g according to type
Enclosure protection type	IP 20
Mark of conformity	EN 61558

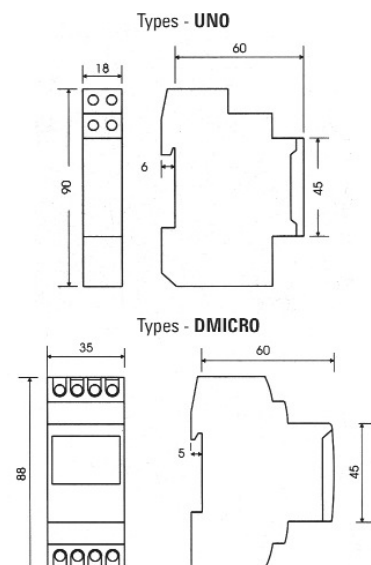


Time Switches

Technical Data

Dimensions

Type	UNO-D	UNO-QRD	UNO-QRS	DMICRO+	DMICRO2+
Rated Voltage	230V AC			240V AC	
Switching Capacity	16(4)A/250V~			16(10)A/250~ 2x16(10)A/250~	
Max. Load:	16A Resistive, 4A Inductive			16A Resistive, 10A Inductive	
Incandescent Lamps	N/A			3000 W	
Non-comp. fluorescent lamps				1200 W	
Comp. Fluorescent Lamps				1200 W 150 µF	
LV halogen lamps				1000 VA	
Halogen lamps 230V				2500 W	
Energy-saving lamps				200 W	
Contacts	Normally open contacts			Change over contacts	
Own consumption	0.5 W			1 W	
Storage locations	N/A			32	64
Programme	24- hour switching		7-day switching	24-hour & 7 day switching	
	96 switch slides		84 switch slides		
Type of switching process				ON OFF pulses (1-59s)	
Clock accuracy	±1s/day at 22°C			±1s/day at 22°C	
Power back-up	none	100 hrs.	100 hrs.	250 hours	
Switch dial	24 hrs.	24 hrs.	7 days	N/A	
Shortest switching time	15 mins.	15 mins.	2 hrs.	1 second	
Operating temperature	-10° C to +50° C			-10° C to +50° C	
Enclosure protection type	IP 20 as per EN 60529			IP 20 as per EN 60529	



Contactors

Technical Data as per IEC 947-4-1, IEC 947-5-1, VDE 0660, EN 60947-4-1, EN 60947-5-1

Version			HS20	HS25	HS40	HS63
Mainswitching elements						
Rated insulation voltage U_i	V~		440 ²⁾	440 ²⁾	440 ²⁾	440 ²⁾
Rated operating voltage U_e	V~		440	440	440	440
Permiss. number of switch operations AC1, AC3						
	1/h		300	300	600	600
Mech. service life						
	S x 10 ⁶		1	1	1	1
Utilization category AC1						
Rated operating current $I_e (=I_{th})$ open at 60°C	A		20	25	40	63
Service life, switching	S x 10 ⁶		0.1	0.1	0.1	0.1
Lowest switching voltage	V/mA		24/100	24/100	24/100	24/100
Transient current strength 10s current	A		72	72	216	240
Dissipated energy per pole at $I_e/AC1$	W		2	2	3	7
Utilization category AC3						
Switching of 3-phase AC motors						
Rated operating current $I_e (=I_{th})$ open at 60°C	A		-	9	27	30
Rating of 3-phase AC motors 220V	kW		-	2.2	7.5	8.0
50 - 60 Hz 230 -240 V	kW		-	2.5	8.0	8.5
380-415 V	kW		-	4	12.5	15
Service life of contact maker						
	S x 10 ⁶		-	0.15	0.15	0.15
Capacity of trip coils						
AC operated						
Energizing	V A		7 - 9	20 - 25	33 - 45	33 - 45
Holding	V A		2.2 - 4.2	4 - 6	7	7
Operating range of trip coils in multiples of U_S (-40°C to +40°C)						
Short circuit protection			0.85 - 1.1	0.85 - 1.1	0.85 - 1.1	0.85 - 1.1
max. rated current of fuse coordination type "1"gL(gG)	A		35	35	63	80
Switching times at control voltage $U_s \pm 10\%$						
closing delay	ms		7 - 16	9 - 15	11 - 15	11 - 15
opening delay	ms		6 - 12	4 - 8	6 - 13	6 - 13
arc duration	ms		10 - 15	10 - 15	10 - 15	10 - 15
Auxiliary switching elements						
Design insulation voltage U_i	V ~		Main contacts may be used as auxiliary contacts		440 ²⁾	440 ²⁾
Thermal rated current - I_{th}		40°C			16	16
		60°C			12	12
Utilization category AC15						
Design operating current I_e		220 - 240 V			12	12
		380 - 415 V			4	4
		440 V			4	4
Utilization category DC 13						
Design operating current I_e		24 - 60 V			8	8
		110 V			1	1
		220 V			0,1	0,1
Short circuit protection						
max. rated current of fuses						
1 kA short circuit current, without the contact's fusing together	gL(gG)	A			25	25

²⁾ applies to systems with earthed neutral, overvoltage categories I to III, contamination level 3 (industrial standard): $U_{imp}=4$ kW

TECHNICAL SPECIFICATIONS

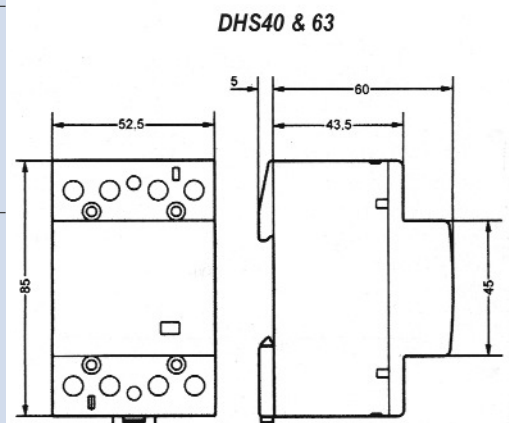
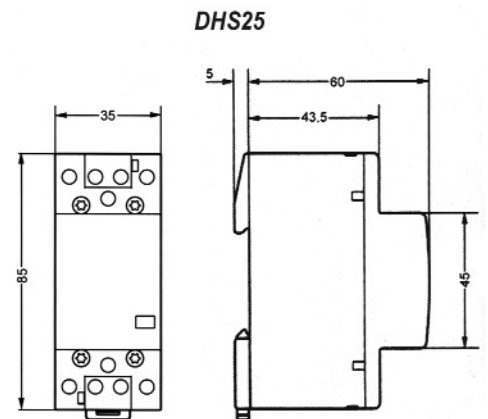
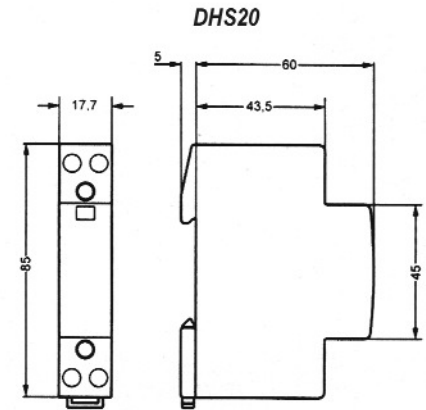
Contactors

Technical Data

Dimensions

Switching of Lamp Loads

Type of Lamp	Power W	Current A	Capacitor μ F	HS20	HS25	HS40	HS63
Incandescent lamps	60	0.27	-	22	28	92	129
	100	0.45	-	13	17	55	77
	200	0.91	-	7	8	27	38
	300	1.36	-	4	5	19	26
	500	2.27	-	3	3	11	16
	1000	4.5	-	1	1	6	8
Fluorescent lamps uncompensated or series compensated	11	0.16	-	60	75	210	310
	18	0.37	2.7	25	30	90	140
	24	0.35	2.5	25	30	90	140
	36	0.43	3.4	20	25	70	140
	58	0.67	5.3	13	16	40	65
	65	0.67	5.3	13	16	40	65
Fluorescent lamps load-lag circuit	11	0.07	-	2 x 100	2 x 110	2 x 220	2 x 250
	18	0.11	-	2 x 50	2 x 55	2 x 130	2 x 200
	24	0.14	-	2 x 40	2 x 44	2 x 110	2 x 160
	36	0.22	-	2 x 30	2 x 33	2 x 70	2 x 100
	58	0.35	-	2 x 20	2 x 22	2 x 45	2 x 70
	65	0.35	-	2 x 15	2 x 16	2 x 40	2 x 60
Fluorescent lamps parallel compensated	11	0.16	2.0	30	30	67	107
	18	0.37	2.0	20	20	50	80
	24	0.35	3.0	15	15	50	80
	36	0.43	4.0	10	10	50	80
	58	0.67	7.0	6	6	36	46
	65	0.67	7.0	5	5	36	46
Fluorescent lamps with electronic ballast	18	0.09	-	40	40	100	150
	36	0.32	-	20	20	50	75
	58	0.25	-	15	15	30	55
	2 x 18	0.17	-	2 x 20	2 x 20	2 x 50	2 x 60
	2 x 36	0.32	-	2 x 10	2 x 10	2 x 25	2 x 30
	2 x 58	0.49	-	2 x 7	2 x 7	2 x 15	2 x 20
High-pressure mercury vapour lamps uncompensated eg. HQL, HPL	50	0.61	-	16	18	38	55
	80	0.80	-	12	14	28	40
	125	1.15	-	8	9	20	28
	250	2.15	-	4	5	11	15
	400	3.25	-	3	4	7	10
	700	5.40	-	1	2	4	6
High-pressure mercury vapour lamps compensated eg. HQL, HPL	50	0.28	7	7	7	36	50
	80	0.41	8	5	5	31	44
	125	0.65	10	3	3	25	35
	250	1.22	18	2	2	14	19
	400	1.95	25	1	1	10	14
	700	3.45	45	1	1	6	8
1000	4.8	60	-	-	4	6	



Contactors

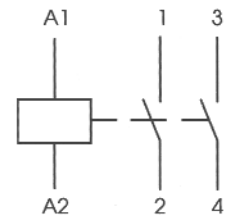
Technical Data

Typical Contact Assignments

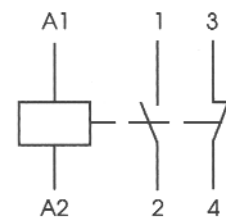
Switching Lamp Loads

Type of Lamp	Power W	Current A	Capacitor μF	HS20	HS25	HS40	HS63
Transformers for halogen low-voltage lamps	20	-	-	40	52	110	174
	50	-	-	20	24	50	80
	75	-	-	13	16	35	54
	100	-	-	10	12	27	43
	150	-	-	7	9	19	29
	200	-	-	5	5	14	23
300	-	-	3	4	9	14	
Metal halide lamps uncompensated e.g. HQI, HPI, CDM	35	0.53	-	22	24	57	65
	70	1	-	12	14	30	35
	150	1.8	-	6	8	17	18
	250	3	-	4	5	10	12
	400	3.5	-	3	4	8	10
	1000	9.5	-	1	1	3	4
2000	16.5	-	-	-	2	2	
400 V per pole	2000	10.5	-	-	-	2	2
	3500	18	-	-	-	1	1
Metal halide lamps compensated e.g. HQI, HPI, CDM	35	0.25	6	8	8	42	58
	70	0.45	12	4	4	21	29
	150	0.75	20	2	2	13	18
	250	1.5	33	1	1	9	11
	400	2.1	35	1	1	9	10
	1000	5.8	95	-	-	3	4
2000	11.5	148	-	-	2	2	
400 V per pole	2000	6.6	58	-	-	3	4
	3500	11.6	100	-	-	2	3
Metal halide lamps with electronic ballast (e.g. PCI) 50-125 x I_{nlamp} for 0.6ms	20	0.10	integrated	9	9	18	20
	35	0.20	integrated	6	6	11	13
	70	0.36	integrated	5	5	10	12
	150	0.70	integrated	4	4	8	10

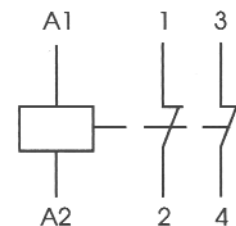
2NOC



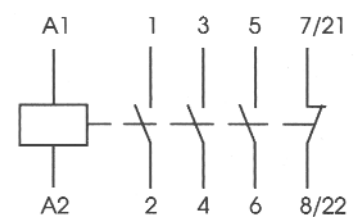
1NOC/1NCC



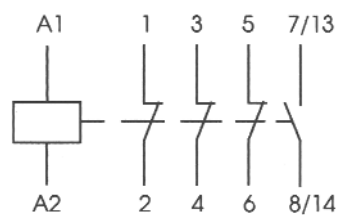
2NCC



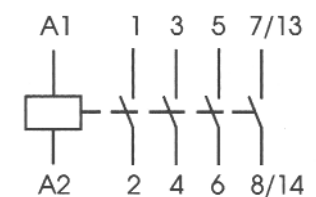
3NOC / 1NCC



1NOC / 3NCC



4NOC



TECHNICAL SPECIFICATIONS

Contactors

Technical Data

Switching Lamp Loads

Type of Lamp	Power W	Current A	Capacitor μ F	HS20	HS25	HS40	HS63
				Low-pressure sodium vapour lamps, uncompensated	35	1.5	-
	55	1.5	-	7	9	22	30
	90	2.4	-	4	6	13	19
	135	3.5	-	3	4	10	14
	150	3.3	-	3	4	10	14
	180	3.3	-	3	4	10	14
	200	3.3	-	3	4	10	14
Low-pressure sodium vapour lamps, compensated	35	0.31	-	3	3	15	18
	55	0.42	-	2	2	15	18
	90	0.63	-	1	1	10	12
	135	0.94	-	1	1	8	9
	150	1.00	-	1	1	3	6
	180	1.16	-	1	1	8	9
	200	1.32	-	-	-	10	12
High-pressure sodium vapour lamps, uncompensated	150	1.8	-	5	6	15	22
	250	3.0	-	4	5	10	13
	330	3.7	-	3	4	8	10
	400	4.7	-	2	2	6	8
	1000	10.3	-	1	1	3	4
High-pressure sodium vapour lamps, compensated	150	0.83	-	2	2	20	25
	250	1.50	-	1	1	12	15
	330	2.00	-	1	1	10	13
	400	2.40	-	1	1	8	12
	1000	6.30	-	-	-	4	6

Wall Mounting Twilight Switch

Technical Data

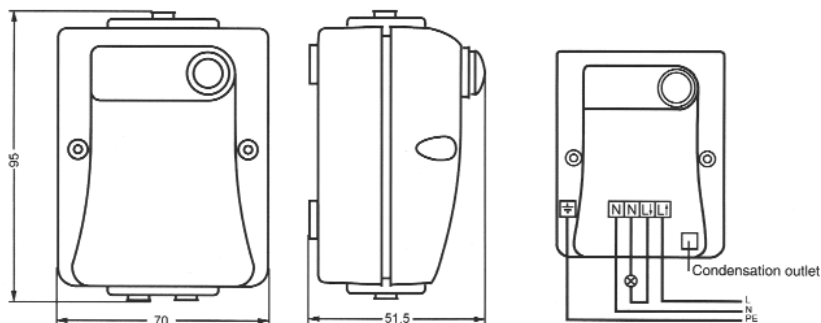
Dimensions

Contact Assignments

Type

DASY 16

Operating voltage	230 V AC \pm 10%, 50 to 60 Hz
Switch contact	16 A
Switching capacity	
Incandescent lamps	3700 W
Fluorescent lamps	
- uncompensated	3700 W
- parallel compensated	3700 VA
Mercury vapour lamps	3700 VA
Setting range	5 to 200 Lux
Make delay	10 s
Break delay	40 s
Ambient temperature range	-25° C to +40° C
Enclosure protection type	IP 54
Terminals	2.5 mm ²
Housing	PC / ABS



Cable lead-in: single at the top, double at the bottom with plastic washer and PG 16 at the back