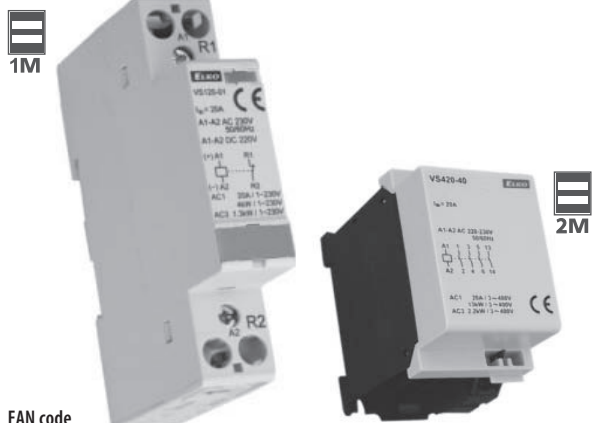




EAN code
see page 124

- For switching electric circuits, especially for resistive loads and three-phase induction motors
 - number of contacts VS120: 1
 - number of contacts VS220: 2
 - number of contacts VS420, VS425, VS440, VS463: 4
- It is produced in configuration of switching and breaking contacts:
 - VS120: 10, 01
 - VS220: 20, 11, 02
 - VS420: 40, 31
 - VS425: 40, 31, 22, 04
 - VS440: 40, 31, 22, 04
 - VS463: 40, 31, 22
- Protection IP 20 - on request we deliver covers that ensure protection IP 40 for all terminals
- DIN rail or panel mounting

Technical parameters	VS120	VS220	VS420	VS425	VS440	VS463
Rated insulation voltage (Ui):	230 V	230 V	415 V	440 V	440 V	440 V
Rated thermo-current I _{th} (in AC):	20 A	20 A	20 A	25 A	40 A	63 A
Switched operation						
AC-1 for 400 V, 3 phase:	x	x	13 kW	16 kW	26 kW	40 kW
AC-1 for 230 V:	4 kW, 1 phase	4 kW, 1 phase	7.5 kW, 3 phase	9 kW, 3 phase	16 kW, 3 phase	24 kW, 3 phase
AC-3 for 400 V, 3 phase:	x	x	2,2 kW	4 kW	11 kW	15 kW
AC-3 for 230 V:	1.3 kW only NO, 1 phase	1.3 kW only NO, 1 phase	1.1 kW, 3 phase	2.2 kW, 3 phase	5.5 kW, 3 phase	8.5 kW, 3 phase
AC-7a for 400 V, 3 phase:	x	x	13 kW	16 kW	26 kW	40 kW
AC-7a for 230 V:	4 kW, 1 phase	4 kW, 1 phase	7.5 kW, 3 phase	9 kW, 3 phase	16 kW, 3 phase	24 kW, 3 phase
AC-7b for 400 V, 3 phase:	x	x	2,2 kW	4 kW	11 kW	15 kW
AC-7b for 230 V:	1.3 kW only NO, 1 phase	1.3 kW only NO, 1 phase	1.1 kW, 3 phase	2.2 kW, 3 phase	5.5 kW, 3 phase	8.5 kW, 3 phase
AC-15 for 400 V, 1 phase:	4 A	4 A	4 A	4 A	4 A	4 A
AC-15 for 230 V, 1 phase:	6 A	6 A	6 A	6 A	6 A	6 A
DC1 U _e = 24 V:	20 A	20 A	20 A	25 A	40 A	63 A
DC1 U _e = 110 V:	6 A	6 A	2 A	6 A	4 A	4 A
DC1 U _e = 220 V:	0.6 A	0.6 A	0.5 A	0.6 A	1.2 A	1.2 A
Loadability of modular contactors see page 115						
The max. number of switching for max. load:	600 switch/hr.	600switch/hr.	600 switch/hr.	600 switch/hr.	600 switch/hr.	600 switch/hr.
Electrical life in 230 / 400 V						
AC-1 - resistive load :	0.2x10 ⁶	0.2x10 ⁶	0.2x10 ⁶	0.2x10 ⁶	0.1x10 ⁶	0.1x10 ⁶
AC-3 - power load:	0.3x10 ⁶	0.3x10 ⁶	0.3x10 ⁶	0.5x10 ⁶	0.15x10 ⁶	0.15x10 ⁶
AC-5a - high-intensity discharge lamp:	0.1x10 ⁶ by 30 μF	0.1x10 ⁶ by 30 μF	0.3x10 ⁶ by 36 μF	0.1x10 ⁶ by 36 μF	0.1x10 ⁶ by 220 μF	0.1x10 ⁶ by 330 μF
AC-5b - incandescent lamps :	0.1x10 ⁶ by 2 kW	0.1x10 ⁶ by 2 kW	0.1x10 ⁶ by 2 kW	0.1x10 ⁶ by 2 kW	0.1x10 ⁶ by 4 kW	0.1x10 ⁶ by 5 kW
AC-7a - resistive household devices:	0.2x10 ⁶	0.2x10 ⁶	0.2x10 ⁶	0.2x10 ⁶	0.1x10 ⁶	0.1x10 ⁶
AC-7b - inductive household devices:	0.3x10 ⁶	0.3x10 ⁶	0.3x10 ⁶	0.3x10 ⁶	0.15x10 ⁶	0.15x10 ⁶
Minimal load:	≥ 17 V, ≥ 50 mA	≥ 17 V, ≥ 50 mA	≥ 17 V, ≥ 50 mA	≥ 17 V, ≥ 50 mA	≥ 17 V, ≥ 50 mA	≥ 24 V, ≥ 100 mA
Short circuit protection with the fuse char. aM:	20 A	20 A	20 A	25 A	63 A	80 A
Coordination Type according EN 60 947-4-1:	2	2	2	2	2	2
Electrical strenght:	4 kV	4 kV	4 kV	4 kV	4 kV	4 kV
Contacts - max. cable size:						
Solid conductor:	AWG 7 (10 mm ²)	AWG 7 (10 mm ²)	AWG 10 (2.5 mm ²)	AWG 7 (10 mm ²)	AWG 3 (25 mm ²)	AWG 3 (25 mm ²)
Stranded conductor:	6 mm ²	6 mm ²	2.5 mm ²	6 mm ²	16 mm ²	16 mm ²
Maximal torque:	1.2 Nm	1.2 Nm	1.2 Nm	1.2 Nm	3.5 Nm	3.5 Nm
Coil - max. cable size:						
Solid conductor:	AWG 10 (2.5 mm ²)	AWG 10 (2.5 mm ²)	AWG 10 (2.5 mm ²)	AWG 10 (2.5 mm ²)	AWG 10 (2.5 mm ²)	AWG 10 (2.5 mm ²)
Stranded conductor:	2.5 mm ²	2.5 mm ²	2.5 mm ²	2.5 mm ²	2.5 mm ²	2.5 mm ²
Max. torque:	0.6 Nm	0.6 Nm	0.6 Nm	0.6 Nm	0.6 Nm	0.6 Nm
Operating						
Coil control voltage:	AC/DC 24 V, 48 V, 110 V, 230 V	AC/DC 24 V, 48 V, 110 V, 230 V	AC 24 V, 48 V, 110 V, 230 V	AC/DC 24 V, 48 V, 110 V, 230 V	AC/DC 24 V, 48 V, 110 V, 230 V	AC/DC 24 V, 48 V, 110 V, 230 V
Coil permanent supply +/- 10 %:	2.1 VA/2.1 W	2.1 VA/2.1 W	5 VA/1.5 W	2.6 VA/2.6 W *	5 VA/5 W	5 VA/5 W
Coil gear supply +/- 10 %:	2.1 VA/2.1 W	2.1 VA/2.1 W	30 VA/25 W	2.6 VA/2.6 W *	5 VA/5 W	5 VA/5 W
Mounting side-by-side:	max. 2 contactors**	max. 2 contactors**	max. 2 contactors**	max. 2 contactors**	max. 2 contactors**	max. 2 contactors**
Operational temperature:	-5 ... +55 °C					
Storing temperature:	-30... +80 °C					
Weight:	120 g (4.2 oz.)	130 g (4.6 oz.)	170 g (6 oz.)	213 g (7.5 oz.)	400 g (14 oz.)	400 g (14 oz.)
Dimensions:	17.5 x 85 x 60 mm (0.7"x 3.35"x 2.4")	17.5 x 85 x 60 mm (0.7"x 3.35"x 2.4")	35 x 62.5 x 57 mm (1.4"x 2.7"x 2.24")	35 x 85 x 60 mm (1.4"x 3.35"x 2.4")	53.3 x 84 x 60 mm (2.1"x 3.31"x 2.4")	53.3 x 84 x 60 mm (2.1"x 3.31"x 2.4")

Standards: IEC 60947-4-1, IEC 60947-5-1, IEC 61095, EN 60947-4-1, EN 60947-5-1, EN 61095, VDE 0660

* 3.8 VA/3,8 W for -04 version of contacts

** Note: In case several contactors are mounted close to each other, you need to use a installation spacer between every other contactor. We offer installation spacer of type IKV.

VS120	VS120-10	VS120-01	
VS220	VS220-20	VS220-11	VS220-02
VS420	VS420-40	VS420-31	
VS425	VS425-40	VS425-31	
	VS425-22	VS425-04	
VS440	VS440-40	VS440-31	
	VS440-22	VS440-04	
VS463	VS463-40	VS463-31	VS463-22

Auxiliary contacts for VS425, VS440, VS463 and VSM220, VSM425

Datas of auxiliary contacts for VSK-11 and VSK-20

Ambient temperature:	-5 °C to +55 °C (23 °F to 131 °F)
Rated insulation voltage (Ui):	500 V
Electrical strength:	4 kV
Rated current 230 V (AC 15):	6 A
Rated current 400 V (AC 15):	4 A
Max. switching frequency:	6 A
The max. number of switching for max. load:	600 sep./hod.
Minimal load:	≥ 12 V, ≥ 10 mA
Short circuit protection with the fuse char. aM:	6 A
Solid/ Stranded conductor (max):	2.5 mm ² (AWG 10)/ 2.5 mm ² (AWG 10)
Maximal torque:	0.8 Nm
Weight:	10 g (0.35 oz.)
Dimensions:	10 x 85 x 60 mm (0.4" x 3.35" x 2.4")

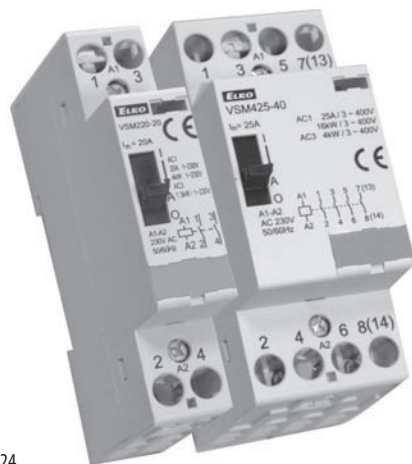
Connection of auxiliary contact VSK-11 and VSK-20

EAN code
see page 124

VSK-11

VSK-20





EAN code
see page 124

- Special version of installation contactors with not only basic functions but also with manual control
- For switching accumulative appliances for heating and service water warming
- Description of individual positions of manual control

AUTO: common function as with installation contactors without manual control

1: shifting from AUTO to 1: operational contacts are closed and back contacts are open until there is another impulse to a contactor coil

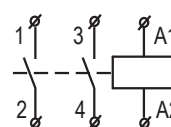
0: contacts are open (operational contact) or closed (stand-by contact) regardless voltage

- Optical indicator: ON-OFF
- It is produced in configuration of making and breaking contacts:
 - VSM220: 20, 11, 02
 - VSM425: 40, 31, 22, 04
- It is possible to connect auxiliary contacts VSK to contactors VSM220, VSM425

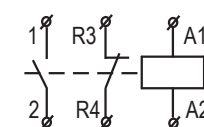
Technical parameters	VSM220	VSM425
Rated insulation voltage (Ui):	230 V	440 V
Rated thermo-current I_n (in AC):	20 A	25 A
<u>Switched operation</u>		
AC-1 for 400 V:	x	16 kW, 3 phase
AC-1 for 230 V:	4 kW, 1 phase	9 kW, 3 phase
AC-3 for 400 V:	x	4 kW, 3 phase
AC-3 for 230 V:	1.3 kW only NO, 1 phase	2.2 kW, 3 phase
AC-7a for 400 V:	x	16 kW, 3 phase
AC-7a for 230 V:	4 kW, 1 phase	9 kW, 3 phase
AC-7b for 400 V:	x	4 kW, 3 phase
AC-7b for 230 V:	1.3 kW only NO, 1 phase	2.2 kW, 3 phase
AC-15 for 400 V:	4 A	4 A
AC-15 for 230 V:	6 A	6 A
DC1 $U_e = 24$ V:	20 A	25 A
DC1 $U_e = 110$ V:	6 A	6 A
DC1 $U_e = 220$ V:	0.6 A	0.6 A
Loadability of modular contactors see page 115		
The max. number of switching for max. load:	600 switch/hr.	600 switch/hr.
<u>Electrical life in 230 / 400 V</u>		
AC-1- resistive load :	0.2×10^6	0.2×10^6
AC-3-power load:	0.3×10^6	0.5×10^6
AC-5a - high-intensity discharge lamp:	0.1×10^6 by 30 μ F	0.1×10^6 by 36 μ F
AC-5b - incandescent lamps :	0.1×10^6 by 1.5 kW	0.1×10^6 by 1.5 kW
AC-7a - resistive household devices:	0.2×10^6	0.2×10^6
AC-7b - inductive household devices:	0.3×10^6	0.5×10^6
Minimal load:	≥ 17 V, ≥ 50 mA	≥ 17 V, ≥ 50 mA
Short circuit protection with the fuse char. aM:	20 A	25 A
Coordination Type according EN 60 947-4-1:	2	2
Electrical strenght:	4 kV	4 kV
<u>Contacts - max. cable size</u>		
Solid conductor:	AWG 7 (10 mm ²)	AWG 7 (10 mm ²)
Stranded conductor:	6 mm ²	6 mm ²
Maximal torque:	1.2 Nm	1.2 Nm
<u>Coil - max. cable size:</u>		
Solid conductor:	AWG 10 (2.5 mm ²)	AWG 10 (2.5 mm ²)
Stranded conductor:	2.5 mm ²	2.5 mm ²
Max. torque:	0.6 Nm	0.6 Nm
<u>Operating</u>		
Coil control voltage:	AC 12 V, 24 V, 42 V, 48 V, 110 V, 127 V, 230 V	AC 12 V, 24 V, 42 V, 48 V, 110 V, 127 V, 230 V
Coil permanent supply +/- 10 %:	2.8 VA/1.2 W	5.5 VA/1.6 W
Coil gear supply +/- 10 %:	12 VA/10 W	33 VA/25 W
Mounting side-by-side:	max. 2 contactors*	max. 2 contactors*
Operational temperature:	-5 ... +55 °C	
Storing temperature:	-30... +80 °C	
Weight:	140 g (4.9 oz.)	260 g (9.17 oz.)
Dimensions:	17.5 x 85 x 60 mm (0.7"x 3.35"x 2.4")	35 x 85 x 60 mm (1.4"x 3.35"x 2.4")
Standards:	IEC 60947-4-1, IEC 60947-5-1, IEC 61095, EN 60947-4-1, EN 61095, VDE 0660	

Connection VSM220 VSM220 - only AC supply voltage

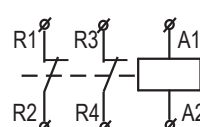
VSM220-20



VSM220-11

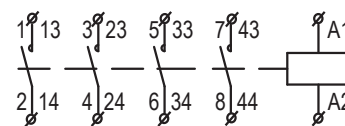


VSM220-02

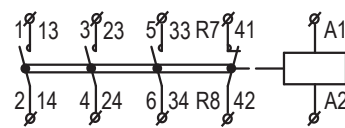


Connection VSM425 VSM425 - only AC supply voltage

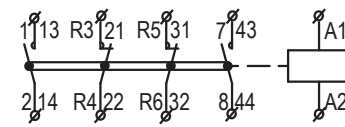
VSM425-40



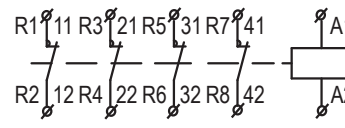
VSM425-31



VSM425-22



VSM425-04



Auxiliary contacts VSK-11 and VSK-20

Datas of auxiliary contacts for VSK-11 and VSK-20 see page 121

*Note: In case several contactors are mounted close to each other, you need to use a installation spacer between every other contactor. We offer installation spacer of type IKV.



TYPE OF LIGHT	OPERATION (W)	I (A)	Number of lights on one contactor's contact							
			VS120	VS220	VS420	VS425	VS440	VS463	VSM220	VSM425
Incandescent lamps	60	0.26	33	33	33	33	65	85	33	33
	100	0.43	20	20	20	20	40	50	20	20
	200	0.87	10	10	10	10	20	25	10	10
	500	2.17	3	3	3	3	8	10	3	3
	1000	4.35	1	1	1	1	4	5	1	1
Flourescent lamps	18	0.37	22	22	22	24	90	140	22	24
	24	0.35	22	22	22	24	90	140	22	24
	36	0.43	17	17	17	20	65	95	17	20
	58	0.67	14	14	14	17	45	70	14	17
Flourescent lamps lead-lag circuit	18	0.11	2 x 30	2 x 30	2 x 30	2 x 40	2 x 100	2 x 150	2 x 30	2 x 40
	24	0.14	2 x 24	2 x 24	2 x 24	2 x 31	2 x 78	2 x 118	2 x 24	2 x 31
	36	0.22	2 x 17	2 x 17	2 x 17	2 x 24	2 x 65	2 x 95	2 x 17	2 x 24
	58	0.35	2 x 10	2 x 10	2 x 10	2 x 14	2 x 40	2 x 60	2 x 10	2 x 14
Flourescent lamps parallel correction	18	0.12	7	7	7	8	48	73	7	8
	24	0.15	7	7	7	8	48	73	7	8
	36	0.2	7	7	7	8	48	73	7	8
	58	0.32	4	4	4	5	31	47	4	5
Flourescent lamps with electronic ballast units (EVG)	1 x 18	0.09	25	25	25	35	100	140	25	35
	1 x 36	0.16	15	15	15	20	52	75	15	20
	1 x 58	0.25	14	14	14	19	50	72	14	19
	2 x 18	0.17	12	12	12	17	50	70	12	17
	2 x 36	0.32	7	7	7	10	26	38	7	10
	2 x 58	0.49	7	7	7	9	25	36	7	9
High-pressure mercury-vapour lamps uncorrected	50	0.61	14	14	14	18	38	55	14	18
	80	0.8	10	10	10	13	29	42	10	13
	125	1.15	7	7	7	9	20	29	7	9
	250	2.15	4	4	4	5	10	15	4	5
	400	3.25	2	2	2	3	7	10	2	3
	700	5.4	1	1	1	2	4	6	1	2
	1000	7.5	1	1	1	1	3	4	1	1
High-pressure mercury- vapour lamps parallel correction	50	0.28	4	4	4	5	31	47	4	5
	80	0.41	4	4	4	5	27	41	4	5
	125	0.65	3	3	3	4	22	33	3	4
	250	1.22	1	1	1	2	12	18	1	2
	400	1.95	1	1	1	1	9	13	1	1
	700	3.45	-	-	-	-	5	7	-	-
	1000	4.8	-	-	-	-	4	5	-	-
Halogen metal vapour lamps uncorrected	35	0.53	18	18	18	22	43	60	18	22
	70	1	10	10	10	12	23	32	10	12
	150	1.8	5	5	5	7	12	18	5	7
	250	3	3	3	3	4	7	10	3	4
	400	3.5	3	3	3	3	6	9	3	3
	1000	9.5	1	1	1	1	2	3	1	1
	2000	16.5	-	-	-	-	1	1	-	-
Halogen metal-vapour lamps parallel correction	35	0.25	5	5	5	6	36	50	5	6
	70	0.45	2	2	2	3	18	25	2	3
	150	0.75	1	1	1	1	11	15	1	1
	250	1.5	-	-	-	1	6	9	-	1
	400	2.5	-	-	-	1	6	8	-	1
	1000	5.8	-	-	-	-	2	3	-	-
	2000	11.5	-	-	-	-	1	2	-	-
High-pressure sodium- vapour lamps uncorrected	150	1.8	5	5	5	6	17	22	5	6
	250	3	3	3	3	4	10	13	3	4
	400	4.7	2	2	2	2	6	8	2	2
	1000	10.3	-	-	-	1	3	3	-	1
High-pressure sodium- vapour lamps parallel correction	150	0.83	1	1	1	1	11	16	1	1
	250	1.5	-	-	-	1	6	10	-	1
	400	2.4	-	-	-	-	4	6	-	-
	1000	6.3	-	-	-	-	2	3	-	-
Low-pressure sodium- vapour lamps uncorrected	18	0.35	22	22	22	27	71	90	22	27
	35	1.5	7	7	7	9	23	30	7	9
	55	1.5	7	7	7	9	23	30	7	9
	90	2.4	4	4	4	5	14	19	4	5
	135	3.5	3	3	3	4	10	13	3	4
	180	3.3	3	3	3	4	10	13	3	4
Low-pressure sodium- vapour lamps parallel correction	18	0.35	6	6	6	7	44	66	6	7
	35	0.31	1	1	1	1	11	16	1	1
	55	0.42	1	1	1	1	11	16	1	1
	90	0.63	1	1	1	1	8	12	1	1
	135	0.94	-	-	-	-	4	7	-	-
	180	1.16	-	-	-	-	5	8	-	-

EAN codes for VS

VS120		VS220		VS420	
VS120-01 24V AC/DC:	8595188129848	VS220-02 24V AC/DC:	8595188129381	VS420-31 24V AC:	8595188129442
VS120-01 230V AC/DC:	8595188123105	VS220-02 110V AC/DC:	8595188138628	VS420-31 110V AC:	8595188129466
		VS220-02 230V AC/DC:	8595188121422	VS420-31 230V AC:	8595188121446
VS120-10 24V AC/DC:	8595188129367				
VS120-10 230V AC/DC:	8595188123112	VS220-11 24V AC/DC:	8595188129374	VS420-40 12V AC:	8595188129459
		VS220-11 48V AC/DC:	8595188129398	VS420-40 24V AC:	8595188129435
		VS220-11 110V AC/DC:	8595188130790	VS420-40 48V AC:	8595188138581
		VS220-11 230V AC/DC:	8595188121408	VS420-40 230V AC:	8595188121439
		VS220-20 24V AC/DC:	8595188125253		
		VS220-20 48V AC/DC:	8595188129411		
		VS220-20 110V AC/DC:	8595188129428		
		VS220-20 230V AC/DC:	8595188121392		
VS425		VS440		VS463	
VS425-04 24V AC/DC:	8595188129527	VS440-04 24V AC/DC:	8595188129299	VS463-22 24V AC/DC:	8595188129794
VS425-04 48V AC/DC:	8595188129558	VS440-04 110V AC/DC:	8595188129305	VS463-22 230V AC/DC:	8595188121514
VS425-04 110V AC/DC:	8595188143820				
VS425-04 230V AC/DC:	8595188121682	VS440-22 24V AC/DC:	8595188129787	VS463-31 24V AC/DC:	8595188129596
		VS440-22 230V AC/DC:	8595188121477	VS463-31 110V AC/DC:	8595188137904
VS425-13 230V AC/DC:	8595188129473			VS463-31 230V AC/DC:	8595188121507
		VS440-31 24V AC/DC:	8595188129572		
VS425-22 24V AC/DC:	8595188129541	VS440-31 230V AC/DC:	8595188121460	VS463-40 24V AC/DC:	8595188129589
VS425-22 230V AC/DC:	8595188121675			VS463-40 110V AC/DC:	8595188140652
		VS440-40 24V AC/DC:	8595188129565	VS463-40 230V AC/DC:	8595188121491
VS425-31 24V AC/DC:	8595188129497	VS440-40 110V AC/DC:	8595188138567		
VS425-31 48V AC/DC:	8595188137898	VS440-40 230V AC/DC:	8595188121453		
VS425-31 110V AC/DC:	8595188129534				
VS425-31 230V AC/DC:	8595188121668				
VS425-40 24V AC/DC:	8595188129480				
VS425-40 48V AC/DC:	8595188136174				
VS425-40 230V AC/DC:	8595188121651				
VS425-40 400V AC/DC:	8595188129503				

EAN codes for VSM

VSM220		VSM425	
VSM220-02 24V AC:	8595188129817	VSM425-04 24V AC:	8595188129831
VSM220-02 230V AC:	8595188128100	VSM425-04 230V AC:	8595188128155
VSM220-11 24V AC:	8595188129800	VSM425-22 24V AC:	8595188129336
VSM220-11 230V AC:	8595188128094	VSM425-22 230V AC:	8595188128148
VSM220-20 12V AC:	8595188138369	VSM425-31 24V AC:	8595188129824
VSM220-20 24V AC:	8595188128117	VSM425-31 42V AC:	8595188160247
VSM220-20 230V AC:	8595188128087	VSM425-31 230V AC:	8595188128131
		VSM425-40 12V AC:	8595188143820
		VSM425-40 24V AC:	8595188128162
		VSM425-40 230V AC:	8595188128124

EAN codes for VSK

VSK-11:	8595188121613
VSK-20:	8595188121606