

SERIES S DISCONNECTS WITH UNDERVOLTAGE RELEASE

SERIES S WITH UV TRIP

SAFETY REQUIREMENT UV TRIP DISCONNECTS

For personal safety, OSHA, ANSI, IEC and European standards; all require protection against automatic restarting after main line voltage failure.

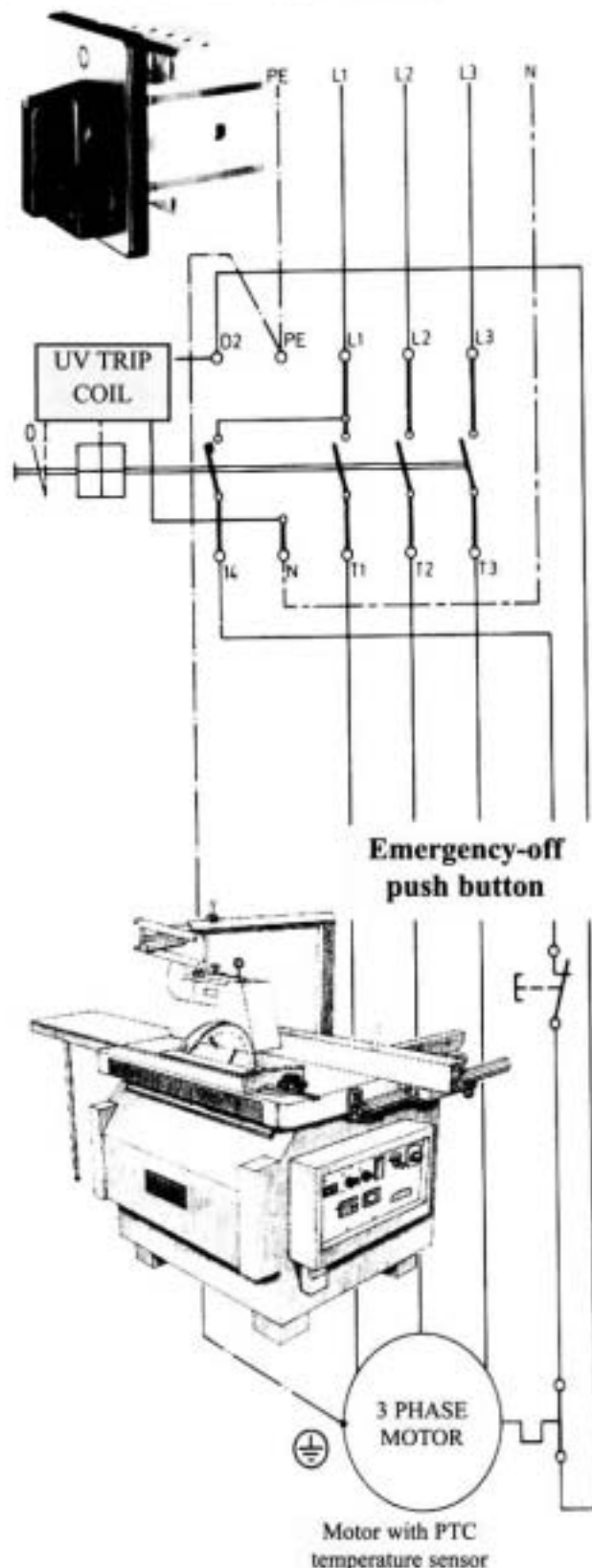
UL specification 0113
European standard EN 60 201 part 1 section 7.5

“If automatic restarting can cause a dangerous condition, damage to the machine or to the working process, such an automatic restart of the machine has to be avoided through the release of the undervoltage safety mechanism.”

ELEKTRA main switches of the S and F series, with undervoltage release, comply to this code requirement. On power failure, the switch automatically turns to the “off” position by means of a trip mechanism.

The switch cannot be turned on until line voltage returns.

For example, the adjacent functional diagram shows the incorporation of the emergency-off pushbutton (N.C. contact) and PTC temperature sensor (N.C. contact) in the control circuit. The coil trips the main switch when the control circuit is interrupted.



MAIN SWITCHES WITH UNDERVOLTAGE RELEASE

S1	30A
S2	50A
S3	80A
S4	150A

MAIN SWITCHES WITH UNDERVOLTAGE RELEASE

F	17A
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International acceptance: CE

Both series S and F are designed to satisfy international requirements. Series F and Series S switches submitted to UL/CSA for approval.

2- AND 3- POLE, 17 AMP (300V)

For sizes to 250 AMP,
see pages ET 26 - ET 29.

DISCONNECTS
UV TRIP

ON-OFF 3 POLE W / UV TRIP			ON-OFF 3 POLE W / UV TRIP		
					
IP 54			IP 54		
Front mounting with interlocking for 1 padlock			Front mounting with interlocking for 1 padlock		
RED / YELLOW OPERATOR		LIST	BLACK OPERATOR		LIST
2-POLE	EF2-BE-RG-*	\$90	2-POLE	EF2-B-SI-*	\$88
3-POLE	EF-BE-RG-*	\$93	3-POLE	EF-B-SI-*	\$91
ON-OFF 3-POLE W / UV TRIP			ON-OFF 3-POLE W / UV TRIP		
					
IP 54			IP 54		
Front mounting with interlocking for 3 padlocks			ISO enclosed		
RED / YELLOW OPERATOR		LIST	BLACK OPERATOR		LIST
2-POLE	EF2-D-RG-*	\$94	2-POLE	EF2-TB-SX-*	\$98
3-POLE	EF-D-RG-*	\$97	3-POLE	EF-TB-SX-*	\$101

*COIL SUFFIX (UV TRIP COIL 60Hz)	
-A	120 VOLT
-C	230 VOLT
-D	380 VOLT
-E	480 VOLT

Special executions

The ISO enclosed main switch is also available with interlocking device for 1 padlock.

	TYPE E-SE Add \$2 List
IP 54	

Technical Specifications

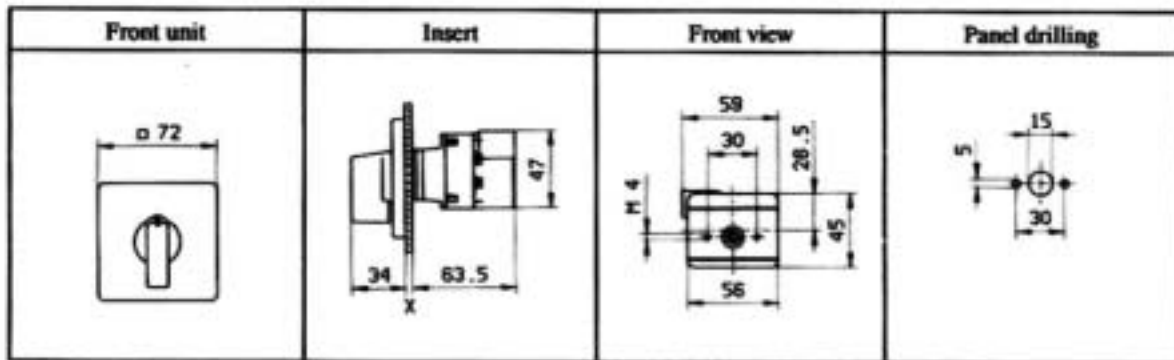
as per IEC 947, EN 60 947, VDE 0660, EN 60 204 / VDE 0113

Rated insulating voltage III/3 EN 60 947	V	440	Switching capacity III/3 EN 60 947			
Rated impulse voltage rigidity III/3 EN 60 947	kV	4		AC-23A/B Motor switch (Main Disconnect)	208V 1-phase	14A 2HP
Rated thermal current	I _{th}	A	16	Rated operating current resp. motor rating	230V 1-phase	15A 3HP
Switching capacity					208V 3-phase	17A 5HP
IEC 947/VDE 0660					220...240V, 3-phase	15A 5HP
AC-21A/B Load Break switches					380...440V 3-phase	10A 5HP
Rated operating voltage	V~	440	Auxiliary switches FMZ/FZ AC-15 Control Switches			
Rated operating current	I _e	A		16	I _e	220...240V 380...440V

DISCONNECTS
UV TRIP

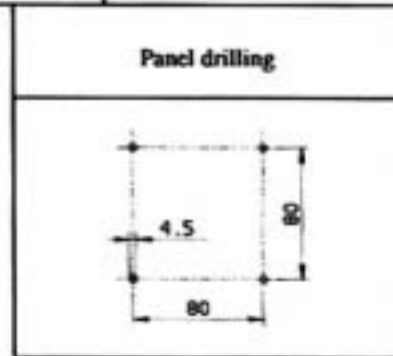
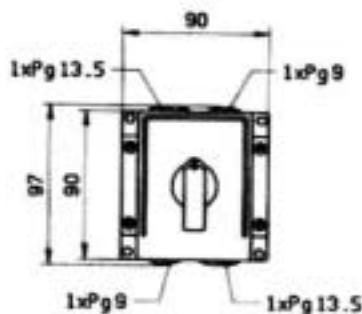
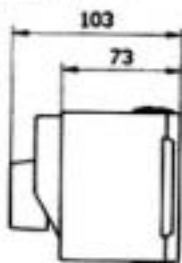
Dimensions (Approx. mm)

Front mounting with undervoltage release F



Dimensions

ISO enclosure T



Construction features:

The S series switches are 3-pole on-off switches with undervoltage release available in 4 sizes to 150 AMP, 600Volt. Series S switches provide protection against automatic restarting after mains failure and voltage recovery, as required by VDE specifications 0113 and European standard EN 60/204 part 1, section 7.5. Wide contact spacings guarantee the clearances as per VDE 0660 up to 660 V.

COIL VOLTAGE

Coil voltage and frequency: In order to guarantee meeting requirements per VDE 0660 part 1, an exact match with the respective rated voltage and the rated frequency is essential. Other voltages with frequency 50 or 60 Hz are available.

UV CIRCUIT

The undervoltage release coil of the standard switch is connected to the line voltage with two basic circuits:

Wiring 011: coil connected between phase and N.

Wiring 013: coil connected between phase and L1 and L2

Wiring 024: coil connection, with control transformer.

When using a control transformer, special wiring 024 is required. Through the use of a 2-pole auxiliary switch, the line voltage is connected to the primary transformer. The secondary of the transformer then, is connected directly to the coil terminal D1 and D2. Listed switches are available with 120V, 230V, or 460V coils (60Hz), and 230V, 50Hz. By removing the jumper wire connection from 14 to D2, extra trip switching elements (N.C. contacts, such as **emergency-off push buttons**, motor thermal temperature switch) can be inserted into the trip coil circuit.

DISCONNECTS WITH UV TRIP



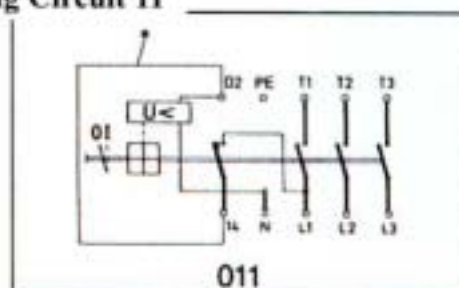
SERIES F TO 17 AMP



SERIES S TO 150 AMP

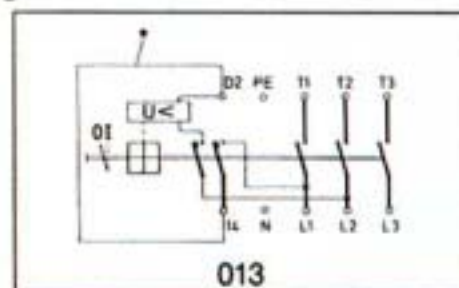
STANDARD UV CIRCUITS

Wiring Circuit 11



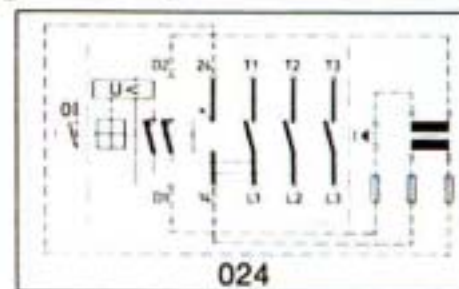
011

Wiring Circuit 13



013

Wiring Circuit 24, with control transformer



024

SERIES S

30 - 150 AMP



RED-YELLOW
OPERATOR

OPEN TYPE
ON - OFF

FRONT MOUNT


600 VOLT AC



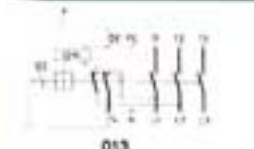
DISCONNECTS
UV TRIP

Circuit diagram	SIZE UNIT	RATED CURRENT		WITH BE OPERATOR		WITH D OPERATOR	
		I _{TH} (AMP)	UL/CSA G.P. Amps	CATALOG NUMBER	LIST PRICE	CATALOG NUMBER	LIST PRICE


Operating voltage phase to neutral

 <p>011</p>	S1	25	30	E S1-11 BE 3 FM-*	\$230	E S1-11 D 3 FM-*	\$236
	S2	50		E S2-11 BE 4 FM-*	271	E S2-11 D 4 FM-*	282
	S3	80				E S3-11 D 5 FM-*	370
	S4	150				E S4-11D 5 FM-*	610

UV operating voltage line to line

 <p>013</p>	S1	25	30	E S1-13 BE 3 FM-*	\$230	E S1-13 D 3 FM-*	\$236
	S2	50		E S2-13 BE 4 FM-*	271	E S2-13 D 4 FM-*	282
	S3	80				E S3-13 D 5 FM-*	370
	S4	150				E S4-13 D 5 FM-*	610

For control transformer,
UV coil voltage, 120V 60Hz

 <p>024</p>	S1	25	30	E S1-24 BE 3 FM-*	\$230	E S1-24 D 3 FM-*	\$236
	S2	50		E S2-24 BE 4 FM-*	271	E S2-24 D 4 FM-*	282
	S3	80				-	-
	S4	150				-	-

EMERGENCY STOP STATION

◆ To add emergency stop pushbuttons or other trip contacts to UV circuit, remove jumper connection (14-D2).

NOTE: FOR BLACK OPERATORS ADD SUFFIX:
-S1 for "BE" handle, -SS for "D" handle

TYPE S4 ISO ENCLOSURES are outdoor dust tight for protection against water sprayed from all directions.

*COIL SUFFIX (UV TRIP COIL 60Hz)	
-A	120 VOLT
-C	230 VOLT
-D	380 VOLT
-E	480 VOLT

**SERIES S
RED-YELLOW
OPERATOR**

**OPEN TYPE
ON - OFF**

30 - 150 AMP

BASE MOUNT

600 VOLT AC



**BASE MOUNT WITH SAFETY
DOOR INTERLOCK**

Replace "D" in catalog number with "SD"

▲ Add \$18 List.

Example: E S1-11 SD 3 BM-*



IP54



IP54

DISCONNECTS
UV TRIP

Circuit diagram	SIZE UNIT	RATED CURRENT		WITH BE OPERATOR		WITH D OPERATOR	
		ITH (AMP)	UL/CSA G.P. Amps	CATALOG NUMBER	LIST PRICE	CATALOG NUMBER	LIST PRICE

Operating voltage phase to neutral

	S1	25	30	E S1-11 BE 3 BM-*	\$230	E S1-11 D 3 BM-*	\$240
	S2	50		E S2-11 BE 4 BM-*	271	E S2-11 D 4 BM-*	285
	S3	80				E S3-11 D 5 BM-*	390
	S4	150				E S4-11D 5 BM-*	630

UV operating voltage line to line

	S1	25	30	E S1-13 BE 3 BM-*	\$230	E S1-13 D 3 BM-*	\$240
	S2	50		E S2-13 BE 4 BM-*	271	E S2-13 D 4 BM-*	285
	S3	80				E S3-13 D 5 BM-*	390
	S4	150				E S4-13 D 5 BM-*	630

**For control transformer,
UV coil voltage, 120V 60Hz**

	S1	25	30	E S1-24 BE 3 BM-*	\$230	E S1-24 D 3 BM-*	\$240
	S2	50		E S2-24 BE 4 BM-*	271	E S2-24 D 4 BM-*	285
	S3	80				-	-
	S4	150				-	-

EMERGENCY STOP STATION

◆ To add emergency stop pushbuttons or other trip contacts to UV circuit, remove jumper connection (14-D2).

NOTE: FOR BLACK OPERATORS ADD SUFFIX:

-SI for "BE" handle, -SS for "D" handle



Shaft extension and coupling.

Switch Size	Shaft Length*	Catalog Number	List Price
D1, D2, D3	200mm (7.87 in)	ED-SE-5	\$15
D4, D5	155mm (6.10 in)	ED-SE-7	16
D6, D7	134mm (5.27 in)	ED-SE-11	17

*Allows for up to a 12" deep enclosure - field cut the shaft to length.

***COIL SUFFIX
(UV TRIP COIL 60Hz)**

-A	120 VOLT
-C	230 VOLT
-D	380 VOLT
-E	480 VOLT

SHAFT COUPLING ONLY

E-171479	\$4 List
E-17487	\$6 List

SERIES S

30 - 150 AMP

600 VOLT AC 

**RED-YELLOW
OPERATOR**


**ENCLOSED
ON - OFF**



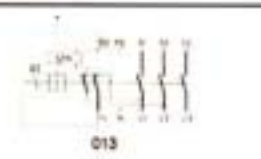
DISCONNECTS
100-1500V

Circuit diagram ◆	SIZE UNIT	RATED CURRENT		TYPE S4 ENCLOSED WITH BE OPERATOR		TYPE S4 ENCLOSED WITH D OPERATOR	
		I _{TH} (AMP)	UL/CSA G.P. Amps	CATALOG NUMBER	LIST PRICE	CATALOG NUMBER	LIST PRICE

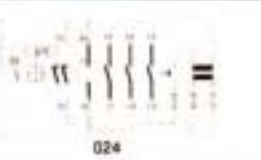
Operating voltage phase to neutral

	S1	25	30	E S1-11 BE 3 S4-*	\$265	E S1-11 D 3 S4-*	\$275
	S2	50		E S2-11 BE 4 S4-*	340	E S2-11 D 4 S4-*	350
	S3	80		-	-	-	-
	S4	150		-	-	-	-

UV operating voltage line to line

	S1	25	30	E S1-13 BE 3 S4-*	\$265	E S1-13 D 3 S4-*	\$275
	S2	50		E S2-13 BE 4 S4-*	340	E S2-13 D 4 S4-*	350
	S3	80		-	-	-	-
	S4	150		-	-	-	-

**For control transformer,
UV coil voltage, 120V 60Hz**

	S1	25	30	E S1-24 BE 3 S4-*	\$265	E S1-24 D 3 S4-*	\$275
	S2	50		E S2-24 BE 4 S4-*	340	E S2-24 D 4 S4-*	350
	S3	80		-	-	-	-
	S4	150		-	-	-	-

EMERGENCY STOP STATION

◆ To add emergency stop pushbuttons or other trip contacts to UV circuit, remove jumper connection (14-D2).

NOTE: FOR BLACK OPERATORS ADD SUFFIX:

-S1 for "BE" handle, -SS for "D" handle

TYPE S4 ISO ENCLOSURES are outdoor dust tight for protection against water sprayed from all directions.

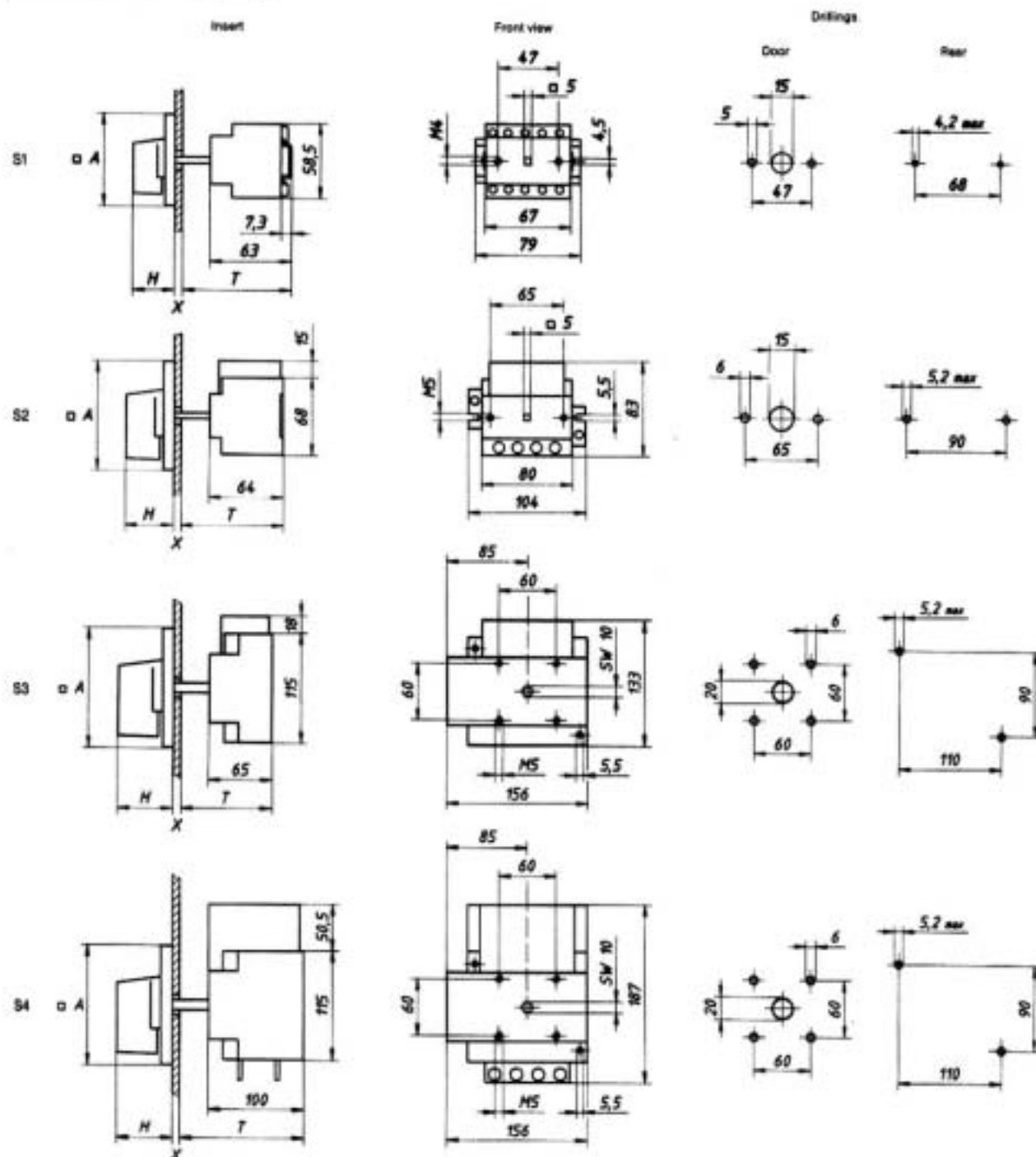
TYPE 1 and 12 METAL,

Check with factory sales representative

*COIL SUFFIX (UV TRIP COIL 60Hz)	
-A	120 VOLT
-C	230 VOLT
-D	380 VOLT
-E	480 VOLT

DIMENSIONS, APPROX. (mm) BASE MOUNT (BM)

For page ET 27



Typ / Type	BE		D		D ₁		X _{max.}	T
	A	H	A	H	A	H		
S1	72	34	72	34	72	34	4	105-113
S2	96	44	96	44	96	44	4	99-107
S3	-	-	125	60	125	60	4	117-132
S4	-	-	125	60	125	60	4	152-167

When using metric screws and lock nuts

DISCONNECTS
UV TRIP