



# INTERRUTTORI DI MANOVRA SEZIONATORI

SWITCHES DISCONNECTORS

TSM 25 ÷ 80A - TSP 80 ÷ 1250A





## SERIE\_SERIES TECHNOSOLAR

### GENERALITÀ

Gli interruttori-sezionatori della serie Technosolar nascono per applicazioni sulle energie rinnovabili

### IMPIEGO

Gli apparecchi sono abitualmente impiegati nelle seguenti funzioni:

Scaricatori  
Inverter  
Quadri di stringa  
Colonnine di Ricarica  
O in qualsiasi applicazione con corrente continua.

### CARATTERISTICHE GENERALI

Ottimo potere d'interruzione (DC21B)  
Tensione nominale di isolamento 1.500 VDC  
Tensione di Esercizio fino a 1.000 VDC  
Doppia interruzione per ogni polo  
Elevata durata meccanica ed elettrica  
Adatto per l'utilizzo in climi tropicali  
Grado di protezione ip20 (accessori inclusi)

### GAMMA

TSM, interruttori-sezionatori da guida DIN  
TSP, interruttori- sezionatori da fondo quadro  
TSP-MS, interruttori sezionatori motorizzati  
TSP-BA, interruttori - sezionatori con bobina di sgancio

### COMANDO

Comando di tipo rotativo frontale a mezzo di: maniglia esterna a doppio isolamento con blocco porta in posizione I, grado di protezione IP65, possibilità di 3 blocchi con lucchetto in posizione 0  
Maniglia diretta (a richiesta lucchettabile in posizione di 0

### CONDIZIONI NORMALI DI SERVIZIO, MONTAGGIO E TRASPORTO

Temperatura ambiente di immagazzinamento e trasporto - 25°C + 55°C  
Temperatura ambiente di funzionamento - 20°C + 40°C  
in caso di temperatura ambiente (ta) superiore, applicare la seguente formula di declassamento:

$$I_{The} = k I_{Th} \text{ dove } K = 1 - \frac{t - 40}{100}$$

Umidità relativa max 95%  
Frequenza nominale 50 - 60 Hz  
Altitudine max 2000 m s.l.m.  
Grado di inquinamento 3 secondo IEC 60947-1  
Possono essere montati in qualsiasi posizione.  
Montaggio in custodia: in caso di utilizzo a piena corrente e in mancanza di adeguata ventilazione assicurare un volume pari a circa 5 volte quello dell'apparecchio  
Tipo di servizio (secondo IEC 60947-1): 8 ore; ininterrotto; intermittente 60% classe 30; temporaneo; periodico.

Per condizioni di impiego diverse consultare il costruttore.

### CONFORMITÀ ALLE NORME

IEC 60947-1 | IEC 60947-3 | UNI EN 60947-1 | UNI EN 60947-3

### CERTIFICATI E OMOLOGAZIONI

INTEK | RINA

### \_GENERALITIES

The switch disconnectors of the Technosolar series are designed for applications on renewable energy or where there is the need of a use in DC.

### \_USE

The devices are usually used in the following applications:

Unloaders  
Inverter  
String combiner box  
Charging Columns  
Or in any other DC application.

### \_GENERAL CHARACTERISTICS

Excellent breaking capacity (DC21B)  
Rated insulation voltage 1,500 VDC  
Operating voltage up to 1.000 VDC  
Double interruption for each pole  
High mechanical and electrical durability  
Suitable for use in tropical climates  
Degree of protection ip20 (accessories included)

### \_RANGE

TSM, DIN rail switch-disconnectors  
TSP, plate mounted switch-disconnectors  
TSP-MS, Motorized switch disconnectors  
TSP-BA, switches - disconnectors with release coil

### \_OPERATING MECHANISM

Black (standard execution) or emergency direct handle padlockable in 0 position. Handle with door interlock handle, black or emergency handle padlockable with up to three padlocks in 0 position.  
IP 65 degree of protection.  
Direct handle (padlockable in 0 position on request)

### \_STANDARD SERVICE, MOUNTING AND TRANSPORT CONDITIONS

Storage and transport ambient temperature - 25°C + 55°C  
Working ambient temperature - 20°C + 40°C  
In case of higher ambient temperature (ta) consider the following derating formula:

$$I_{the} = k I_{th} \text{ dove } k = 1 - \frac{t - 40}{100}$$

Relative humidity max 95%  
Rated frequency 50 - 60 Hz  
Altitude max 2000 m a.s.l.  
Pollution degree 3 according IEC 60947-1  
Can be mounted in any position, for what concerns the positioning, please refer to the installation instructions  
Mounting in enclosure: in case of utilisation at full load and without adequate ventilation, ensure a volume of about 5 times the volume of the switch  
Duty (IEC 60947-1): 8 hours; uninterrupted; intermittent 60% class 30; temporary; periodic.

For different operating conditions, please contact the manufacturer.

### \_CONFORMITY TO STANDARDS

IEC 60947-1 | IEC 60947-3 | UNI EN 60947-1 | UNI EN 60947-3

### \_CERTIFICATES AND APPROVALS

INTEK | RINA



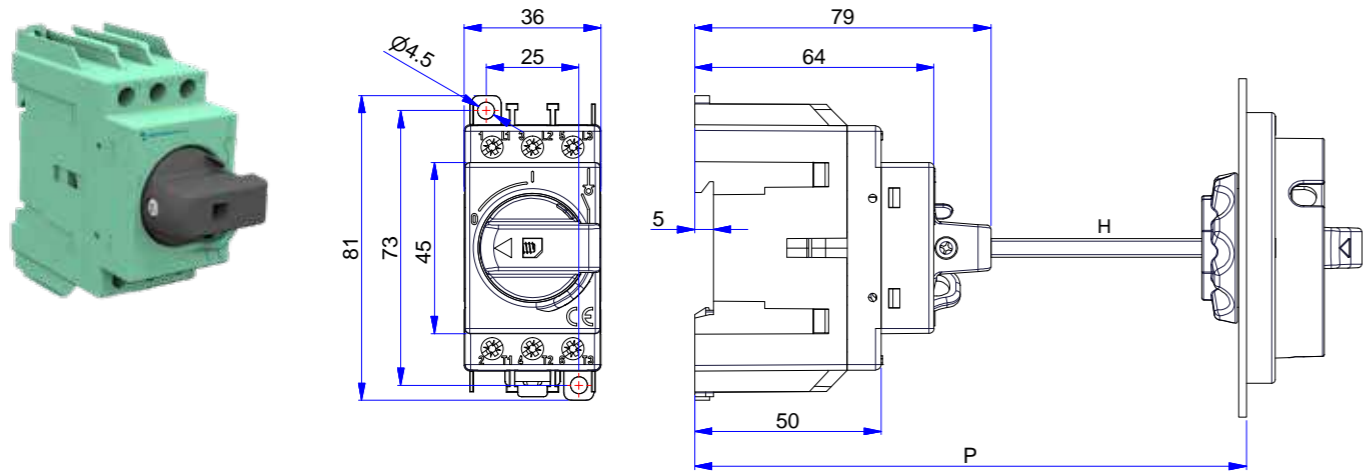


**SERIE\_SERIES TECHNOSOLAR**

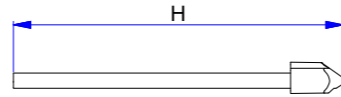
Codice ordinazione _Reference code	<b>TS013M</b>	<b>TS014M</b>	<b>TS015M</b>	<b>TS016M</b>	<b>TS028M</b>	<b>TS038M</b>	
Tensione nominale d'isolamento _Rated insulation voltage	1500	1500	1500	1500	1500	1500	
Corrente nominale termica Ith (A a 40° C) _Rated thermal current Ith (A a 40° C)	25A	30A	35A	40A	60A	80A	
Tensione nominale impulso Uimp (kV) _Impulse withstand voltage Uimp (kV)	8	8	8	8	8	8	
Tensione nominale d'impiego in DC-20 _Rated operational voltage ui in DC-20	1500	1500	1500	1500	1500	1500	
Corrente nominale In (A) in DC21-B _Rated operational current In (A) in DC21-B	400Vdc	25	30	35	40	60	80
	500Vdc	25	30	35	40	45	65
	600Vdc	15	20	25	40	40	60
	750Vdc	10	15	20	25	30	40
	800Vdc	10	15	20	25	30	40
	1000Vdc	-	-	-	-	-	-
N° di poli in serie _N° of poles in series	3	4	5	6	8	8	
Corrente breve durata per 1 sec a 400V (kA) _Short-circuit withstand current 1 sec. a 400V (kA)	1,1	1,1	1,1	1,1	1,5	3	
Massima dimensione cavo Cu (mm²) _Max cable section Cu (mm²)	16	16	16	16	35	70	
Massima torsione terminali (NM) _Max terminal torque (NM)	2	2	2	2	2	6	
Sforzo di manovra (nm) _Operating torque (nm)	1,6	1,6	1,6	1,6	1,6	2,6	
Durata meccanica (N° manovre) _Mechanical endurance (N° of operations)	50.000	50.000	50.000	50.000	30.000	30.000	
Comando diretto (per uso in centralino) _Direct operation (for use on modular panels)	Si_Yes	Si_Yes	Si_Yes	Si_Yes	Si_Yes	No	
Peso netto _Net weight	0,13	0,16	0,19	0,30	0,65	1,05	

Codice ordinazione _Reference code	<b>TS043P</b>	<b>TS046P</b>	<b>TS056P</b>	<b>TS063P</b>	<b>TS073P</b>	<b>TS083P</b>	<b>TS093P</b>	<b>TS103P</b>	
Tensione nominale d'isolamento _Rated insulation voltage	1500	1500	1500	1500	1500	1500	1500	1500	
Corrente nominale termica Ith (A a 40° C) _Rated thermal current Ith (A a 40° C)	80A	100A	250A	400A	800A	800A	1000A	1250A	
Tensione nominale impulso Uimp (kV) _Impulse withstand voltage Uimp (kV)	8	8	12	12	12	12	12	12	
Tensione nominale d'impiego in DC-20 _Rated operational voltage ui in DC-20	1500	1500	1500	1500	1500	1500	1500	1500	
Corrente nominale In (A) in DC21-B _Rated operational current In (A) in DC21-B	400Vdc	80	100	250	400	800	800	1000	1250
	500Vdc	60	100	160	400	630	800	1000	1250
	600Vdc	30	80	125	300	400	800	1000	1250
	750Vdc	30	80	125	300	350	800	1000	1250
	800Vdc	30	80	125	300	350	800	1000	1250
	1000Vdc	-	-	-	-	-	800	1000	1250
N° di poli in serie _N° of poles in series	3	6	6	3	3	3	3	3	
Corrente breve durata per 1 sec a 400V (kA) _Short-circuit withstand current 1 sec. a 400V (kA)	5	5	8	12	26,5	35	50	50	
Massima dimensione cavo Cu (mm²) _Max cable section Cu (mm²)	50+70	50+70	70+120	185+300	300+480	2x240 2x50x5	2x50x6	2x50x8	
Massima torsione terminali (NM) _Max terminal torque (NM)	-	-	-	-	-	-	-	-	
Sforzo di manovra (nm) _Operating torque (nm)	16	16	24	18	34	45	70	70	
Durata meccanica (N° manovre) _Mechanical endurance (N° of operations)	10.000	10.000	10.000	8.000	8.000	5.000	5.000	5.000	
Comando diretto (per uso in centralino) _Direct operation (for use on modular panels)	No	No	No	No	No	No	No	No	
Peso netto _Net weight	0,9	2,2	3,4	3,5	5,5	11	11	11	

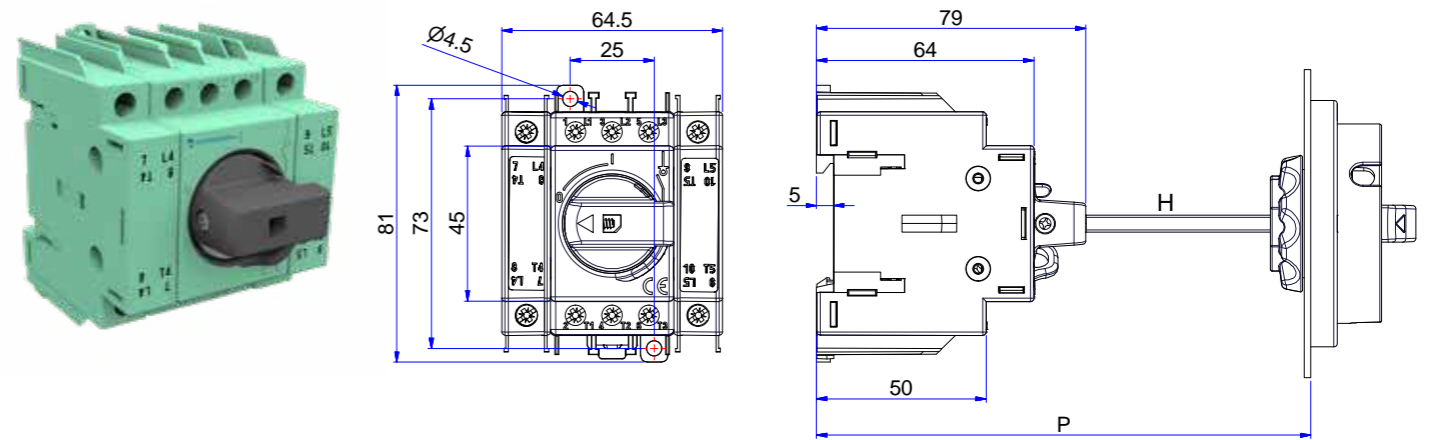
**TS013M**



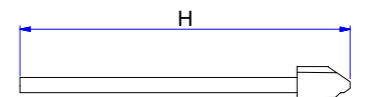
TS013M			
HANDLE	P	C	H
19460	--	34	P-C
19466	--	22	P-C



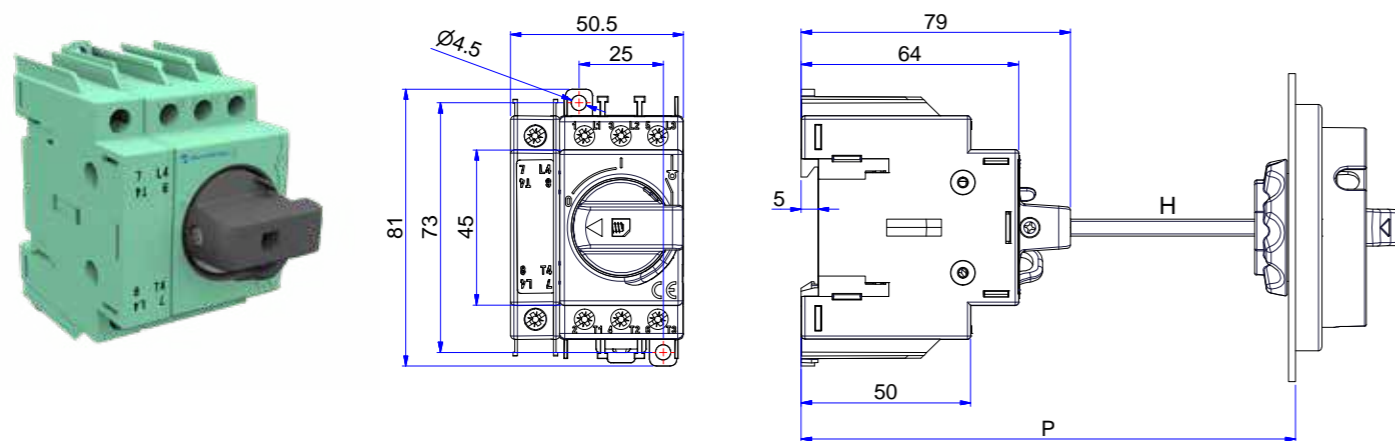
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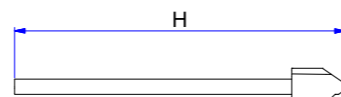
TS015M			
HANDLE	P	C	H
19460	--	34	P-C
19466	--	22	P-C



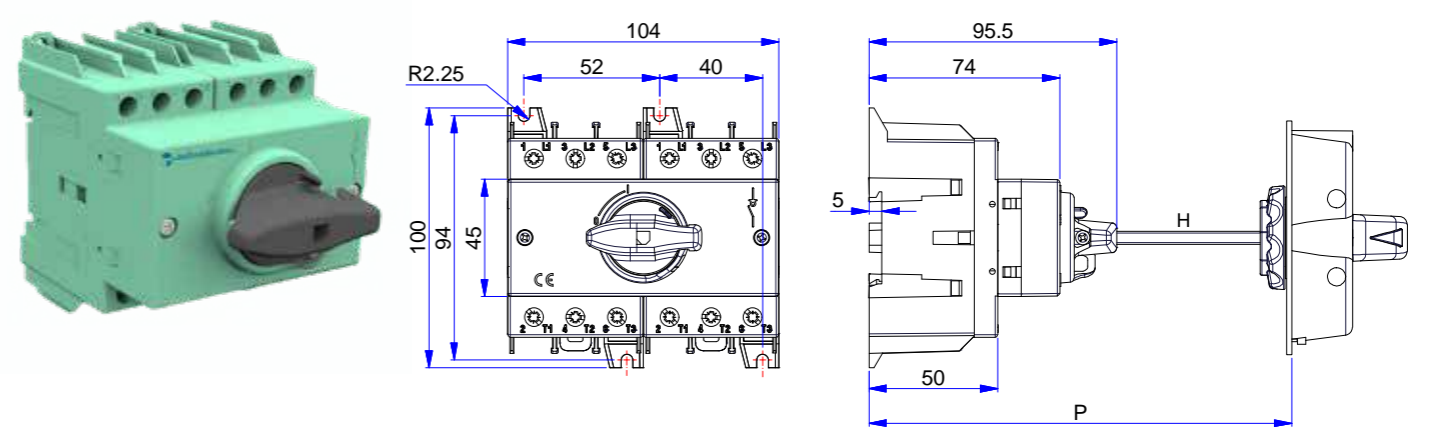
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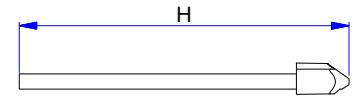
TS014M			
HANDLE	P	C	H
19460	--	34	P-C
19466	--	22	P-C



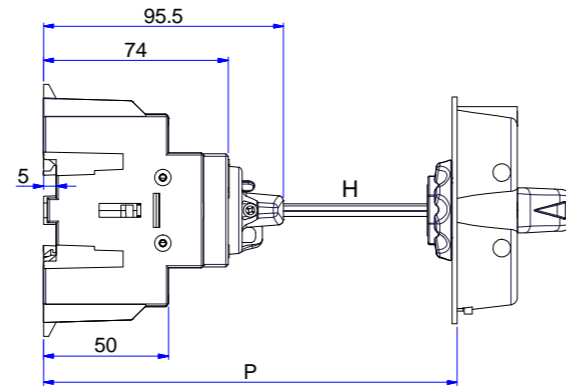
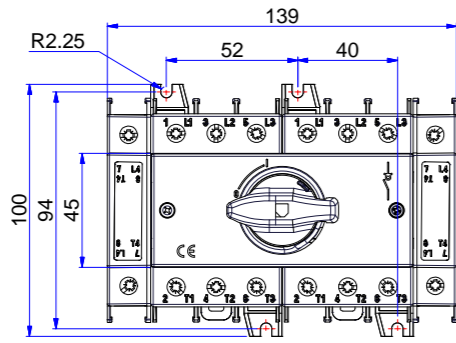
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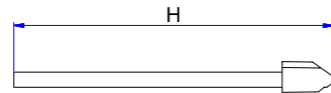
TS016M			
HANDLE	P	C	H
19466	--	40	P-C



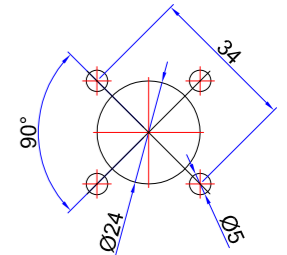
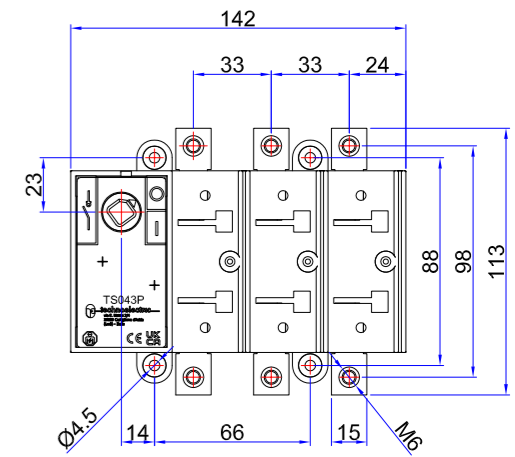
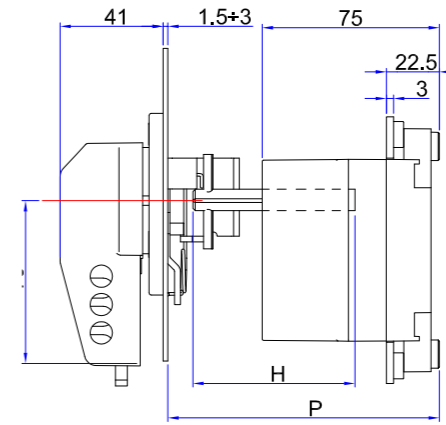
**TS028M**



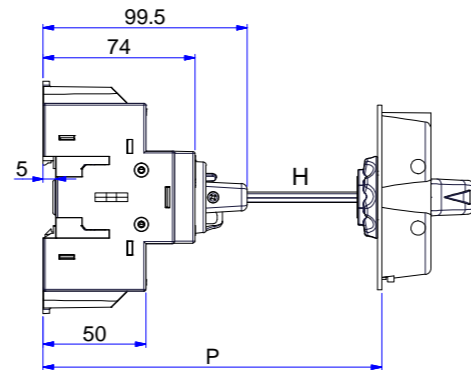
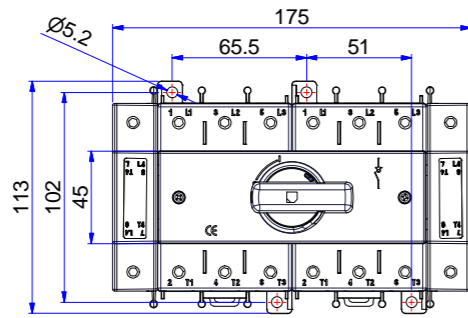
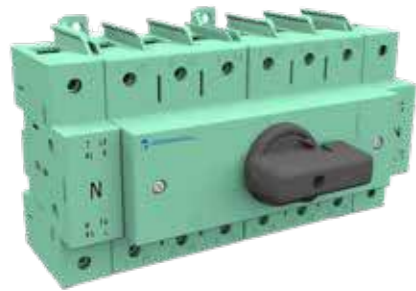
TS028M			
HANDLE	P	C	H
19466	--	40	P-C



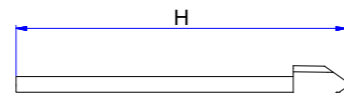
**TS043P**



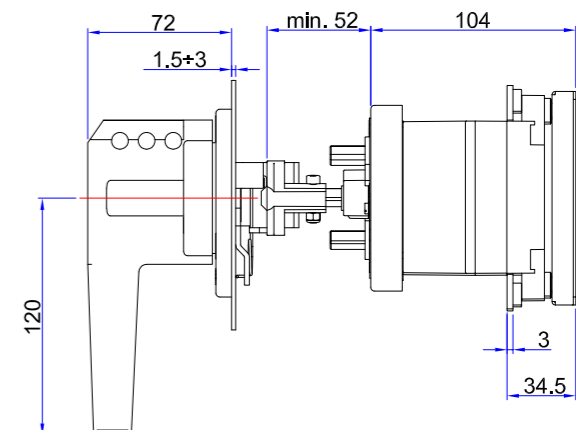
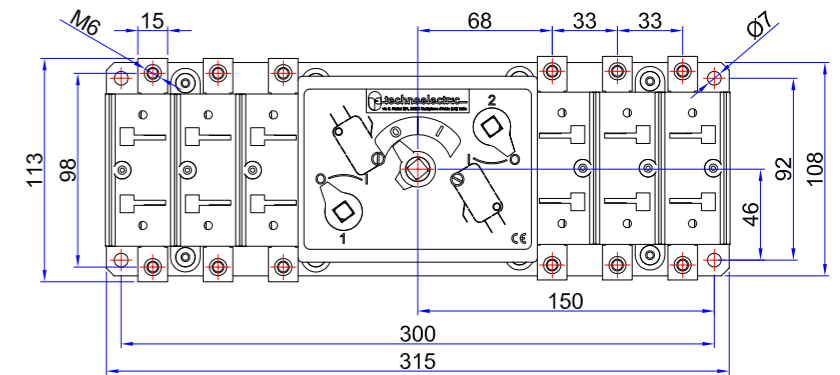
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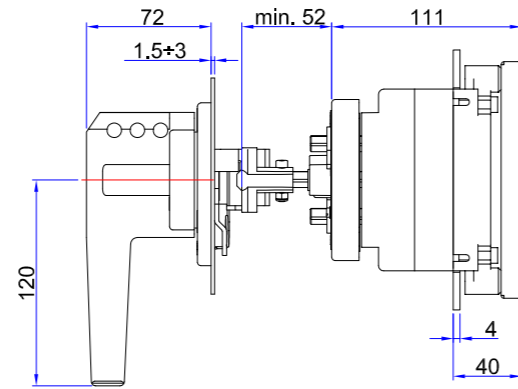
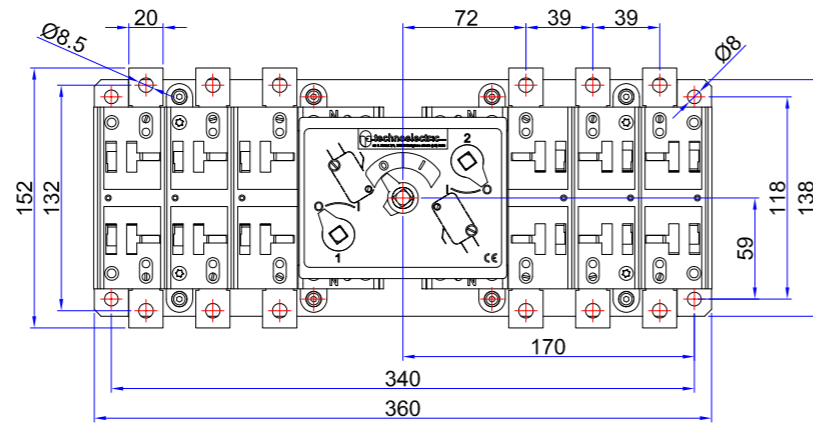
TS038M			
HANDLE	P	C	H
19466	--	40	P-C



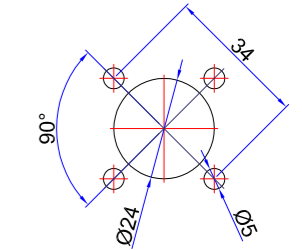
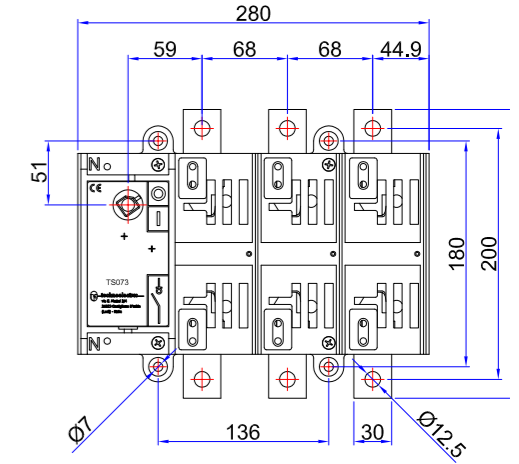
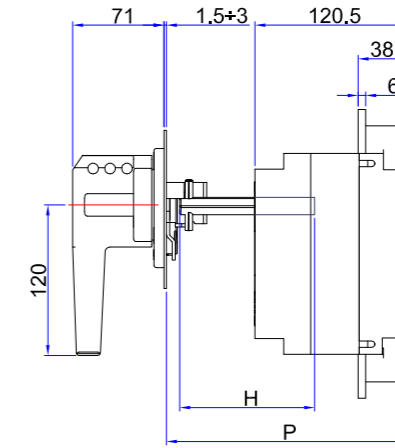
**TS046P**



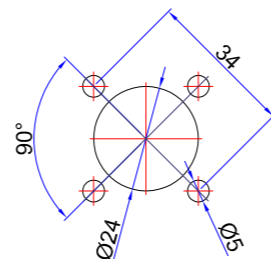
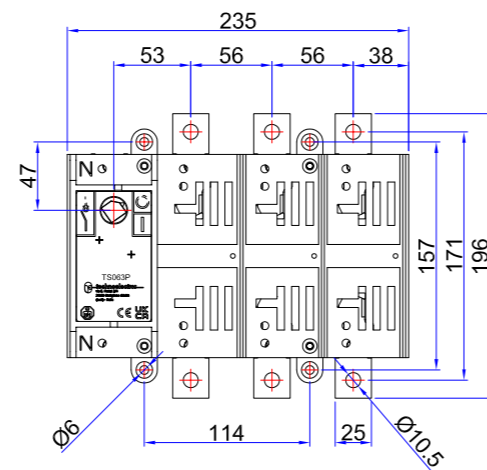
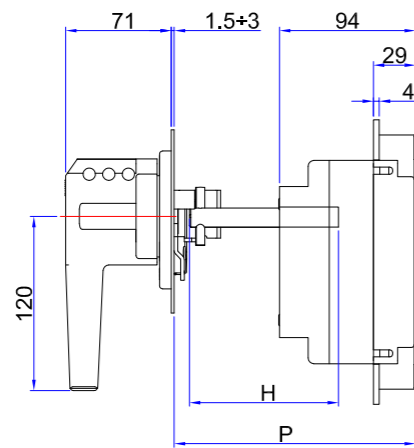
**TS056P**



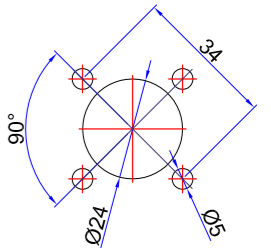
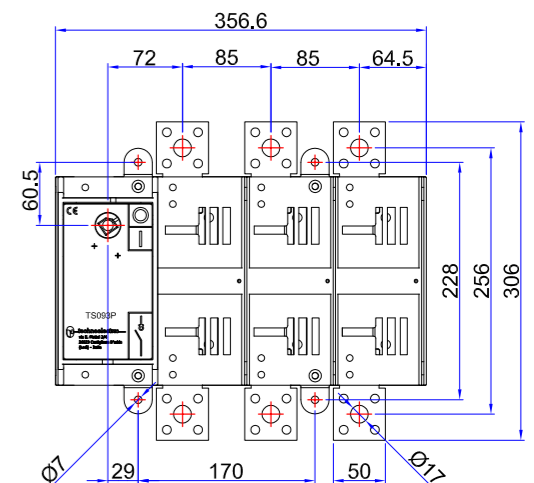
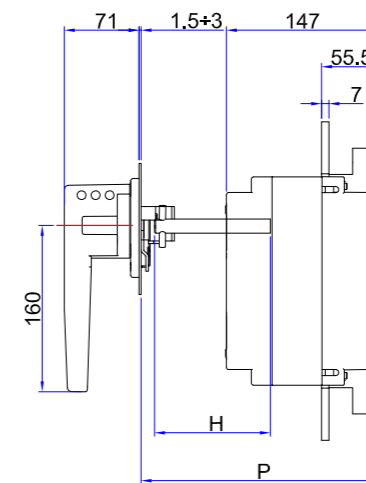
**TS073P**



**TS063P**



**TS083P - TS093P - TS103P**

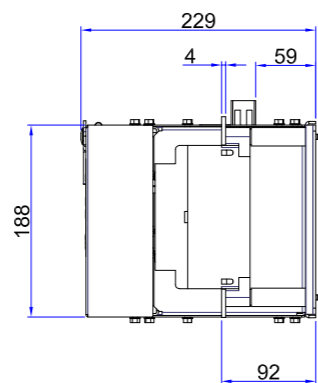
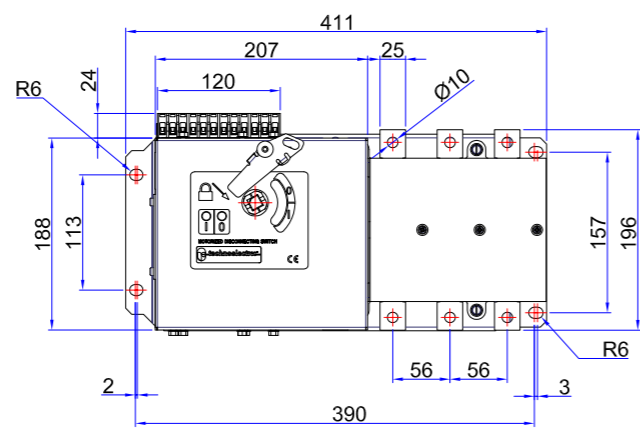


SERIE\_SERIES TECHNOSOLAR

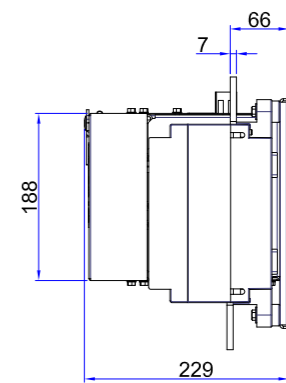
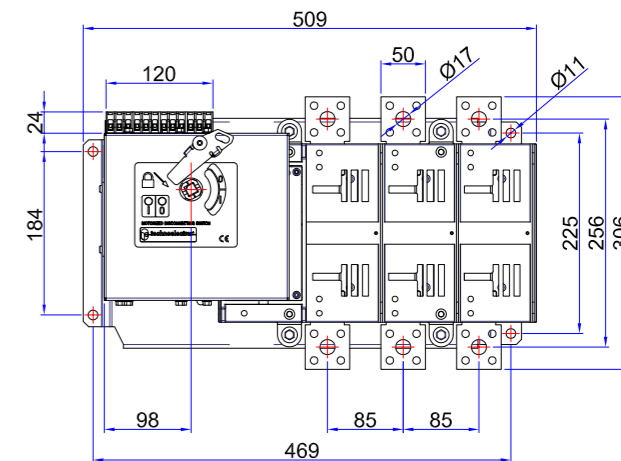
Codice ordinazione _Reference code	TSP-MS					
	TS063PMS	TS073PMS	TS083PMS	TS093PMS	TS103PMS	
Tensione nominale d'isolamento _Rated insulation voltage	1500	1500	1500	1500	1500	
Corrente nominale termica Ith (A a 40° C) _Rated thermal current Ith (A a 40° C)	400A	800A	800A	1000A	1250A	
Tensione nominale impulso Uimp (kV) _Impulse withstand voltage Uimp (kV)	12	12	12	12	12	
Tensione nominale d'impiego in DC-20 _Rated operational voltage ui in DC-20	1500	1500	1500	1500	1500	
Corrente nominale In (A) in DC21 _Rated operational current In (A) in DC21						
	400Vdc	400	800	800	1000	1250
	500Vdc	400	630	800	1000	1250
	600Vdc	300	400	800	1000	1250
	750Vdc	300	350	800	1000	1250
	800Vdc	300	350	800	1000	1250
	1000Vdc	-	-	800	1000	1250
N° di poli in serie _N° of poles in series	3	3	3	3	3	
Corrente breve durata per 1 sec a 400V (kA) _Short-circuit withstand current 1 sec. a 400V (kA)	12	26,5	35	50	50	
Massima dimensione cavo Cu (mm²) _Max cable section Cu (mm²)	185+300	300+480	2x240 2x50x5	2x50x6	2x50x8	
Sforzo di manovra (nm) _Operating torque (nm)	18	34	45	70	70	
Durata meccanica (N° manovre) _Mechanical endurance (N° of operations)	8.000	8.000	7.000	4.000	4.000	
Comando diretto (per uso in centralino) _Direct operation (for use on modular panels)	No	No	No	No	No	
Peso netto _Net weight	12,5	15	18,5	19	19	

Codice ordinazione _Reference code	24 V cc/DC	TSP-BA			
		TS073PB	TS083PB	TS093PB	TS103PB
V aux bobina _V aux coil	48 V cc/DC	TS073PB1	TS083PB1	TS093PB1	TS103PB1
	110 V cc/DC	TS073PB2	TS083PB2	TS093PB2	TS103PB2
	110 V ac/AC	TS073PB3	TS083PB3	TS093PB3	TS103PB3
	220 V ac/AC	TS073PB4	TS083PB4	TS093PB4	TS103PB4
Tensione nominale d'isolamento _Rated insulation voltage		1500	1500	1500	1500
Corrente nominale termica Ith (A a 40° C) _Rated thermal current Ith (A a 40° C)		800A	800A	1000A	1250A
Tensione nominale impulso Uimp (kV) _Impulse withstand voltage Uimp (kV)		12	12	12	12
Tensione nominale d'impiego in DC-20 _Rated operational voltage ui in DC-20		1500	1500	1500	1500
Corrente nominale In (A) in DC21 _Rated operational current In (A) in DC21					
	400Vdc	800	800	1000	1250
	500Vdc	630	800	1000	1250
	600Vdc	400	800	1000	1250
	750Vdc	350	800	1000	1250
	800Vdc	350	800	1000	1250
	1000Vdc	-	800	1000	1250
N° di poli in serie _N° of poles in series		3	3	3	3
Corrente breve durata per 1 sec a 400V (kA) _Short-circuit withstand current 1 sec. a 400V (kA)		26,5	35	50	50
Massima dimensione cavo Cu (mm²) _Max cable section Cu (mm²)		300+480	2x240 2x50x5	2x50x6	2x50x8
Sforzo di manovra (nm) _Operating torque (nm)		34	45	70	70
Durata meccanica (N° manovre) _Mechanical endurance (N° of operations)		8.000	7.000	4.000	4.000
Comando diretto (per uso in centralino) _Direct operation (for use on modular panels)		No	No	No	No
Peso netto _Net weight		8,2	13	13,5	13,5

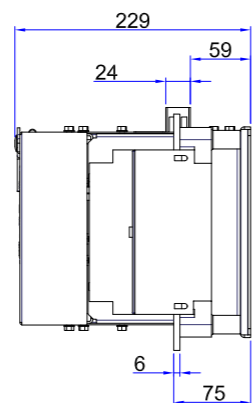
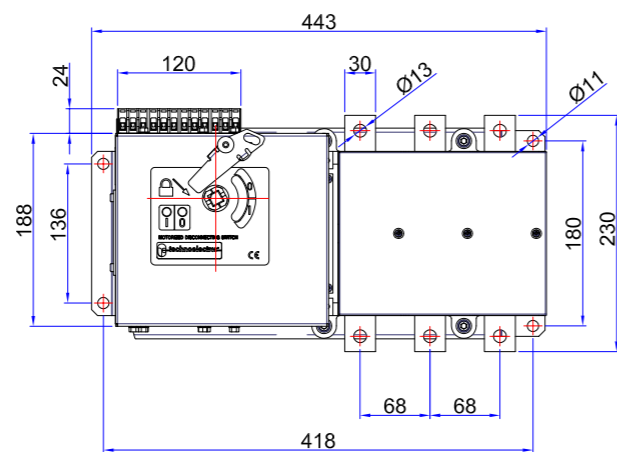
**TS063PMS**



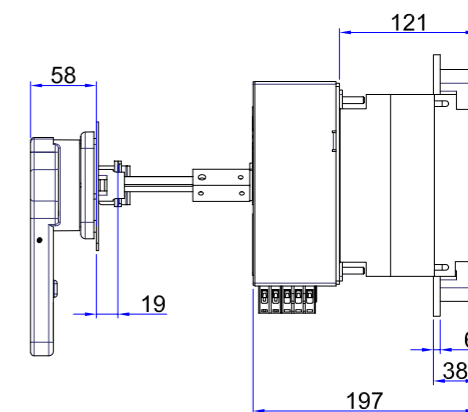
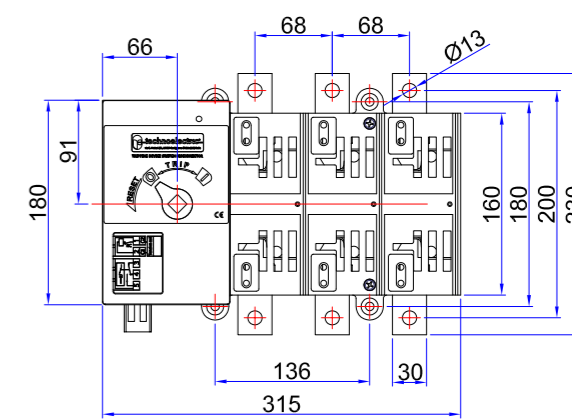
**TS083PMS - TS093PMS - TS103PMS**



**TS073PMS**

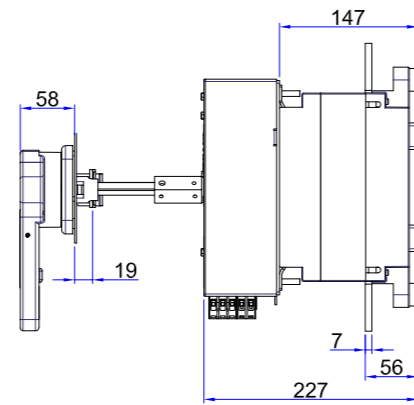
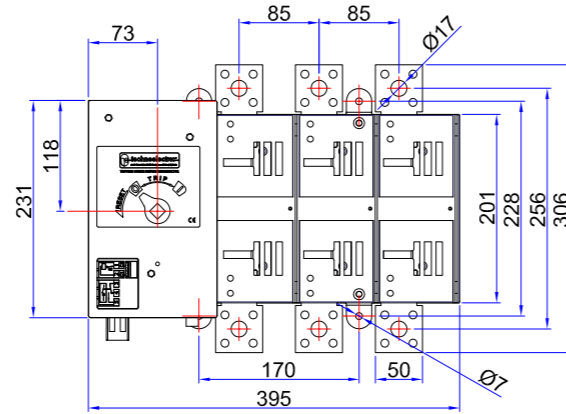


**TS073PB**





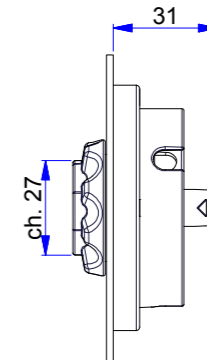
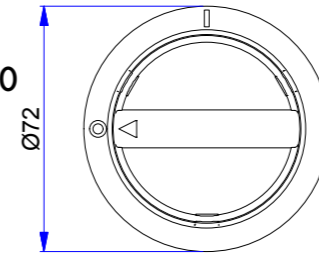
**TS083PB**



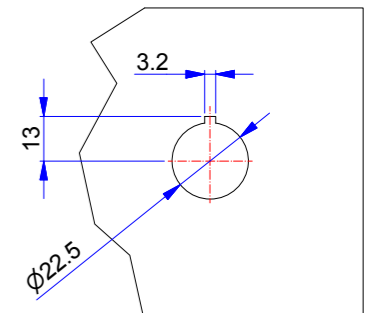
**ACCESSORI TSM \_TSM accessories**  
**MANIGLIE BLOCCO PORTA \_Door interlock handles**



19460



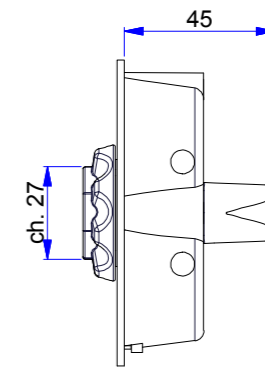
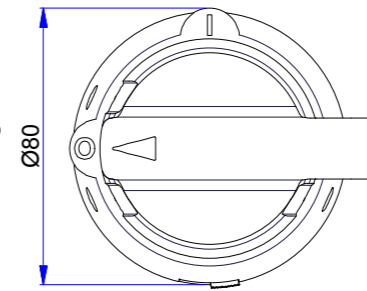
Foratura portella \_Door drilling



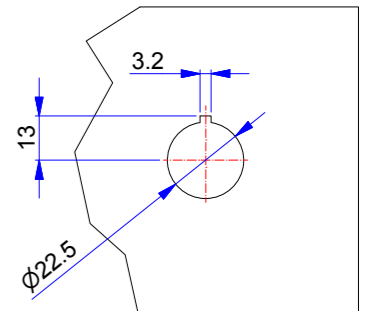
**MANIGLIA CON SBLOCCO PORTA**  
**\_handle with defeater mechanism**



19466



Foratura portella \_Door drilling



**ALBERI DI COMANDO CON PUNTALE**  
**\_shaft for external operation with tip**



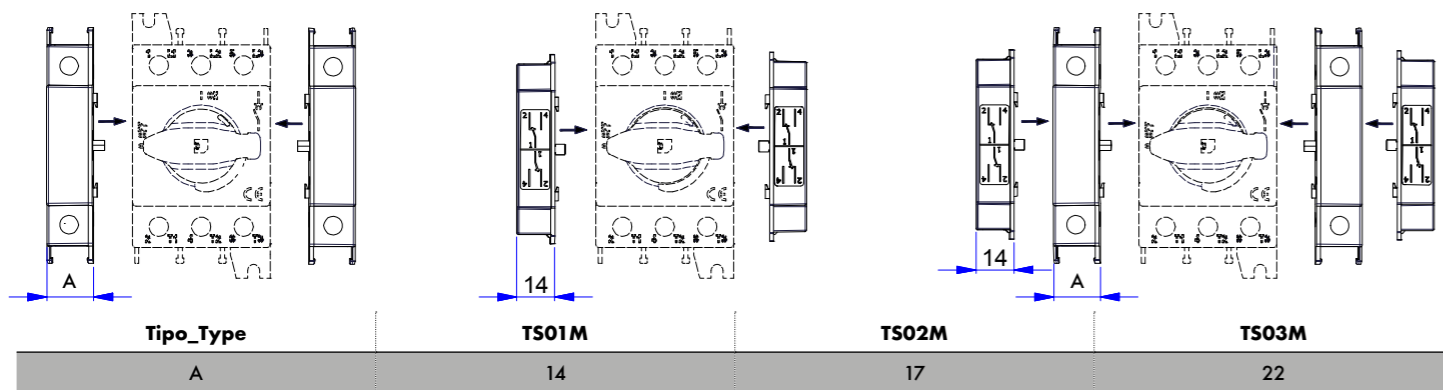
Tipo _type	TSM alluminio _aluminium			TSM acciaio _steel		
Poli _poles	3 - 4 - 5			3 - 4 - 5   6 - 8		
mm	100	200	300	100	200	300
Codice_ code	19535-100P	19535-200P	19535-300P	19534-100P	19534-200P	19534-300P

## SERIE\_SERIES TECHNOSOLAR

montaggio poli aggiuntivi  
\_additional poles assembly

montaggio contatti ausiliari  
\_auxiliary contacts assembly

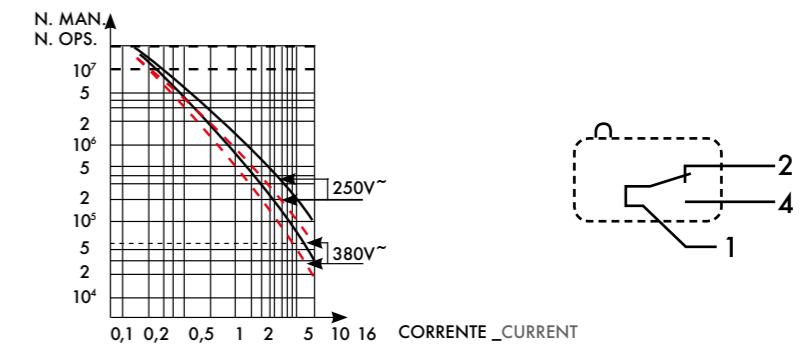
montaggio poli aggiuntivi + contatti ausiliari  
\_additional poles + auxiliary contacts assembly



Per il montaggio dei contatti ausiliari addossati al 4° polo, ordinare la confezione viti cod 11190311  
\_For the installation of the auxiliary contacts on the 4th pole, please order the screws set with code 11190311

Contatti ausiliari in scambio  
Apertura anticipata rispetto  
all'apertura dei contatti  
principali dell'interruttore Portata  
nominale 16A  
Portata termica 20A

\_Auxiliary contacts  
break before make contacts switches  
Rated current 16A  
Thermal current 20A



## CONTATTI AUSILIARI IN SCAMBIO 1NA + 1NC \_auxiliary contacts 1NO + 1NC



## MORSETTO DI TERRA \_Earthing neutral



Tipo_Type	TS01M	TS02M	TS03M
Codice_code	19442	19443	19444

Tipo_Type	TS01M	TS02M	TS03M
Codice_code	19322	19422	19452

## KIT COPRI TERMINALI 4° POLO \_4th pole terminals cover kit



## KIT COPRI TERMINALI 3 POLI \_3 poles terminals cover kit



## MORSETTO ADATTATORE 200A PER CAVI DA 95MM<sup>2</sup> \_Terminal adapter 200A for 95 mm<sup>2</sup> cables



Il codice include 3 pezzi \_3 pcs in each code

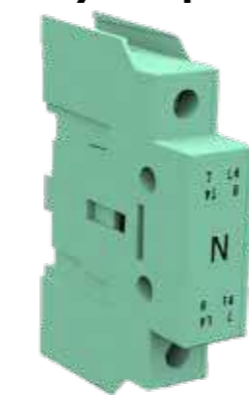
Codice\_code : 19565

Poli_poles	Diametro massimo cavo _Max. Cross section	Corrente Nominale _Nominal current	Tensione Nominale _Nominal voltage
1	120	190A - 200A	690V

## NEUTRO PASSANTE \_Solid neutral

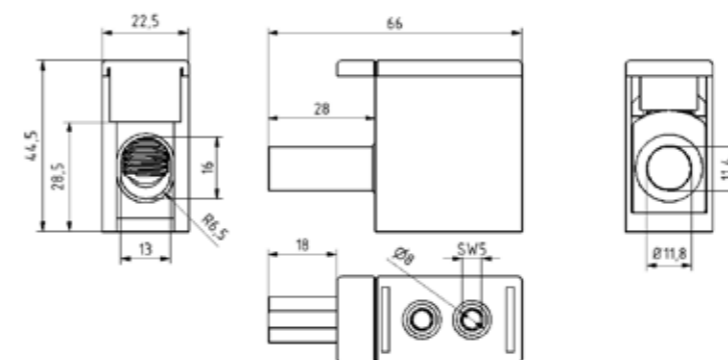


## 4° POLO CONTEMPORANEO \_Contemporary 4th pole



Tipo_Type	TS01M	TS02M	TS03M
Codice_code	19321	19420	19451

Tipo_Type	TS01M	TS02M	TS03M
Codice_code	19442	19443	19444



Adattatore terminali per cavo da 95 mm<sup>2</sup>. Per il collegamento di conduttori in alluminio e rame alle apparecchiature. Il corpo è in alluminio stagnato e l'alloggiamento è in poliammide.

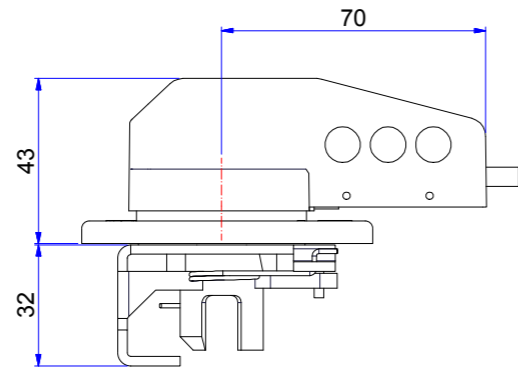
\_Terminal Adapter for 95 sqmm cable. for connecting Al-and Cu-conductors to equipment. Body is made of tin-plated aluminium and housing is polyamid.

**MANIGLIA BLOCCO PORTA NERA PER TS P**

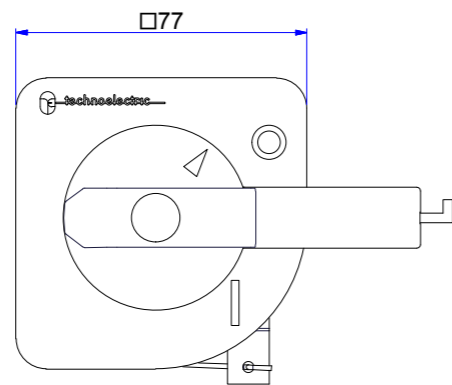
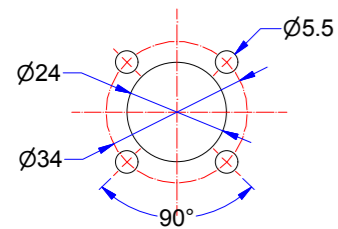
**\_door interlock handle for TS P**

Tipo_type	TS043P	TS046P	TS056P	TS063P	TS073P	TS083P	TS093P	TS0103P
Codice_code	18001	18003	18003	18003	18003	18005	18830 18844	18830 18844

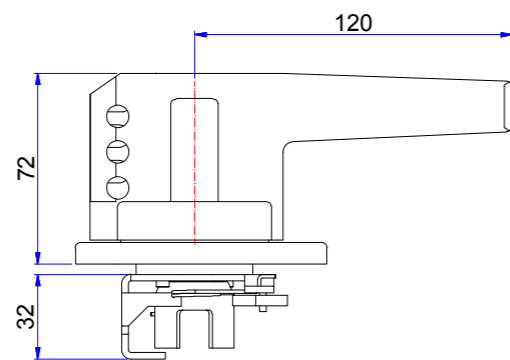
**18001**



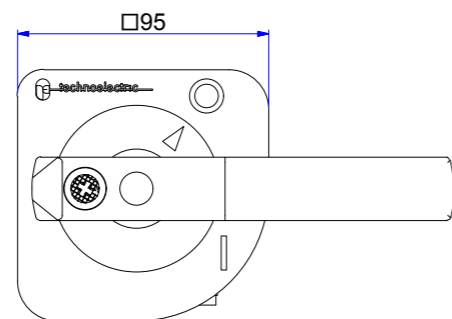
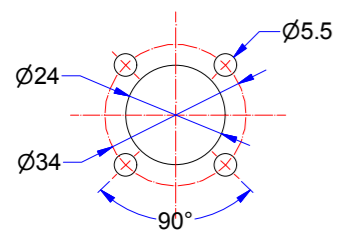
Foratura portella \_Door drilling



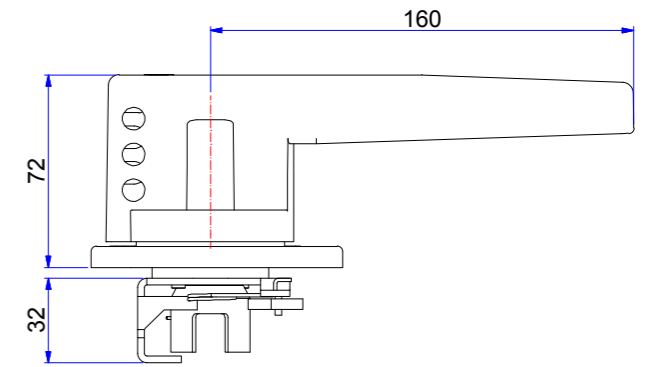
**18003**



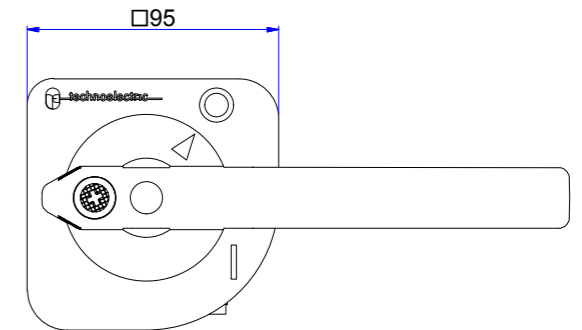
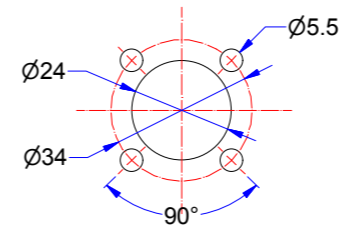
Foratura portella \_Door drilling



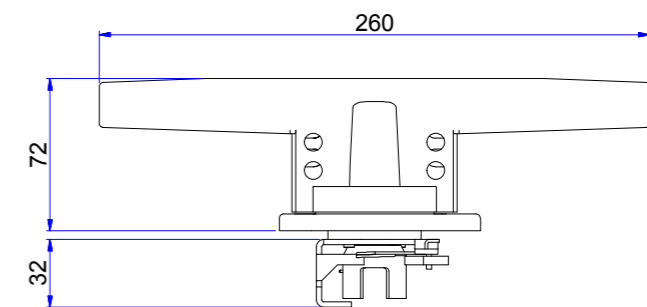
**18005**



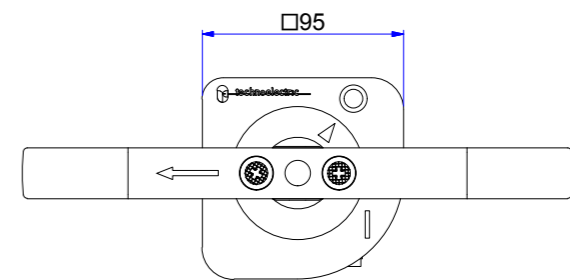
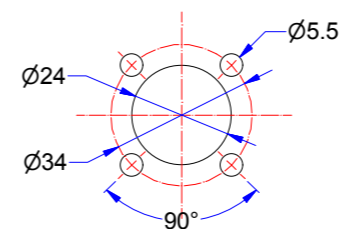
Foratura portella \_Door drilling



**18007**

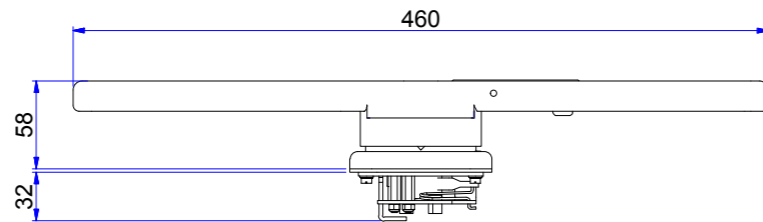


Foratura portella \_Door drilling

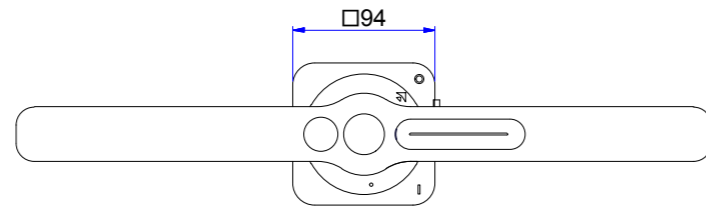
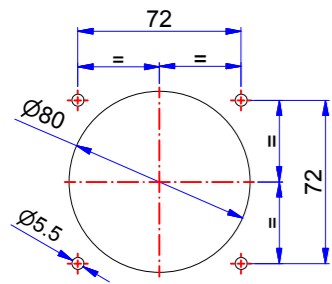




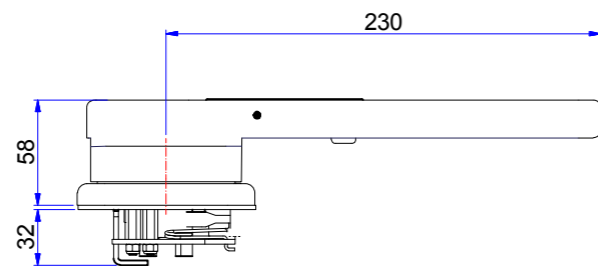
**18830**



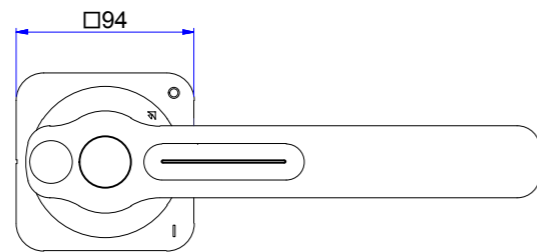
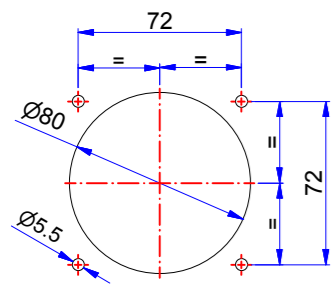
Foratura portella \_Door drilling



**18844**



Foratura portella \_Door drilling



**ALBERO COMANDO**  
**\_shaft**



**200 mm**

Tipo_type	TS4   5	TS6   7   8   9   10
Codice_code	18201	18207

**300 mm**

Tipo_type	TS4   5	TS6   7   8   9   10
Codice_code	18202	18208

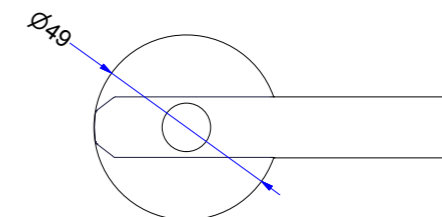
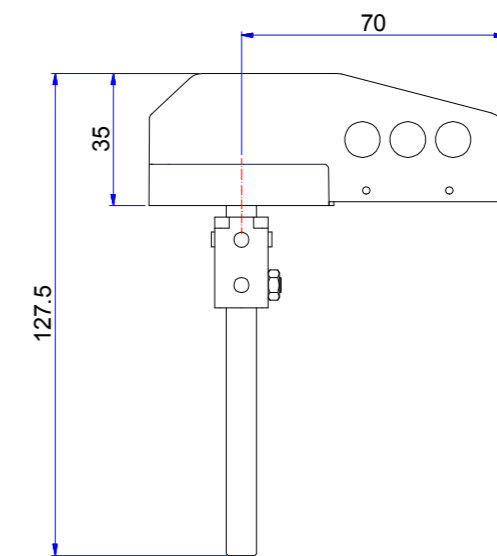
**400 mm**

Tipo_type	TS4   5	TS6   7   8   9   10
Codice_code	18203	18209

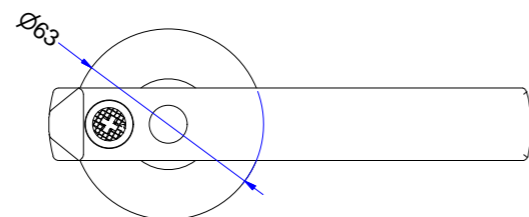
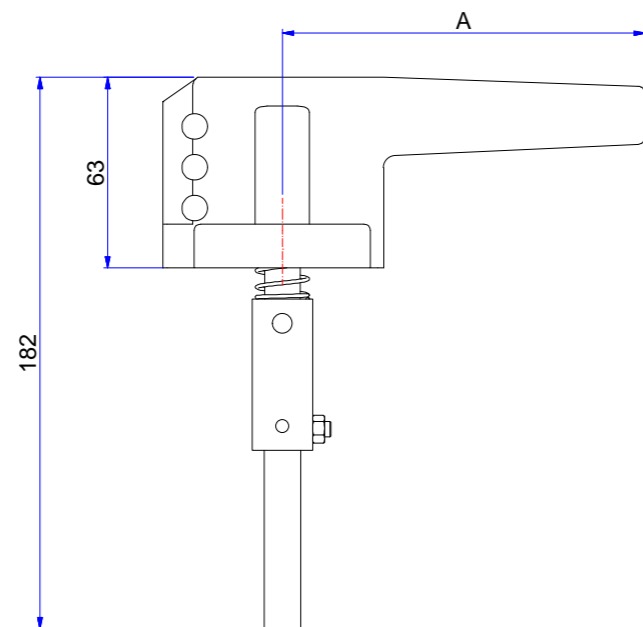
**MANIGLIA DIRETTA NERA PER TS P**  
**\_direct interlock handle for TS P**

Tipo_type	TS043P	TS046P	TS056P	TS063P	TS073P	TS083P	TS093P	TS0103P
Codice_code	18020	18588	18589	18320	18022	18023 18851	18852 18840	18852 18840

**18020**

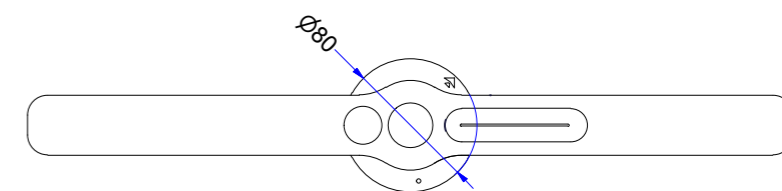
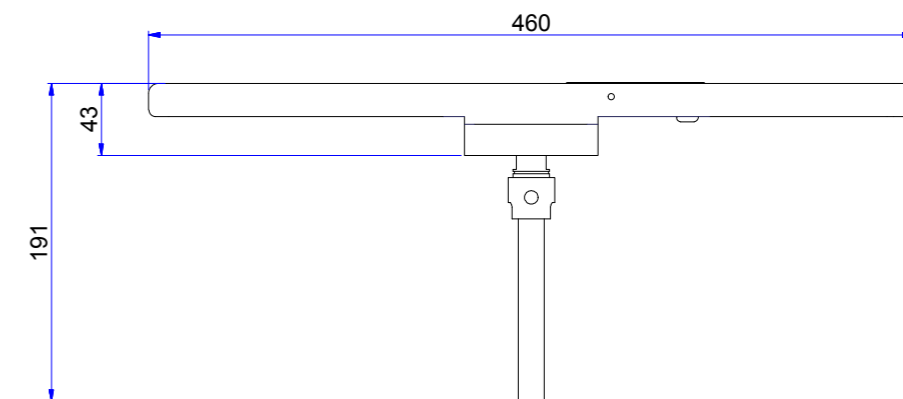


18320 - 18588 - 18589 - 18022 - 18023



Tipo_type	A/mm
18320	120
18588	120
18589	120
18022	160
18023	160

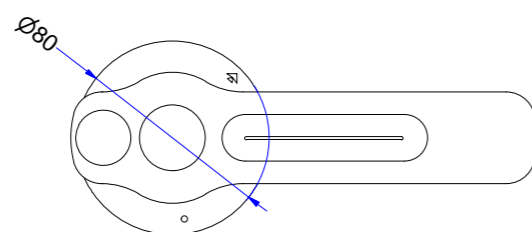
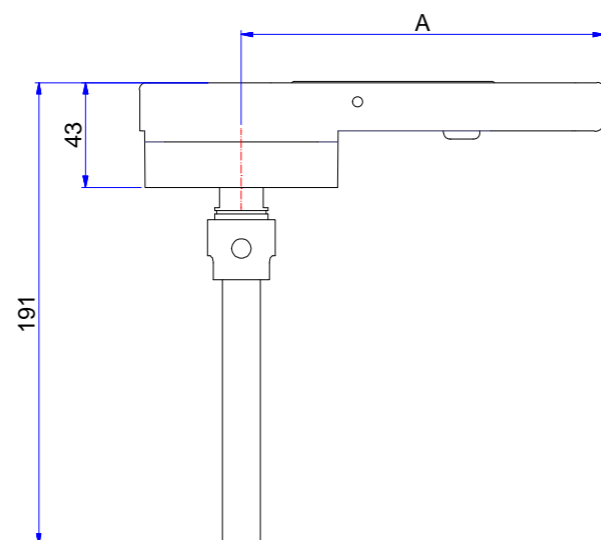
18840



MANIGLIA DIRETTA PER TS P  
\_direct handle for TS P

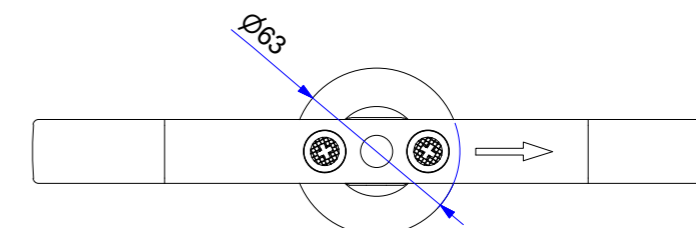
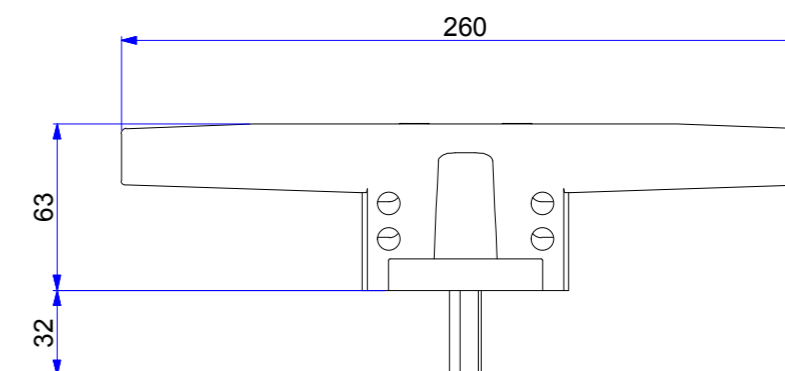
Tipo_type	TS073PB	TS083PB	TS093PB	TS103PB
Codice_code	18802	18803	18803	18803

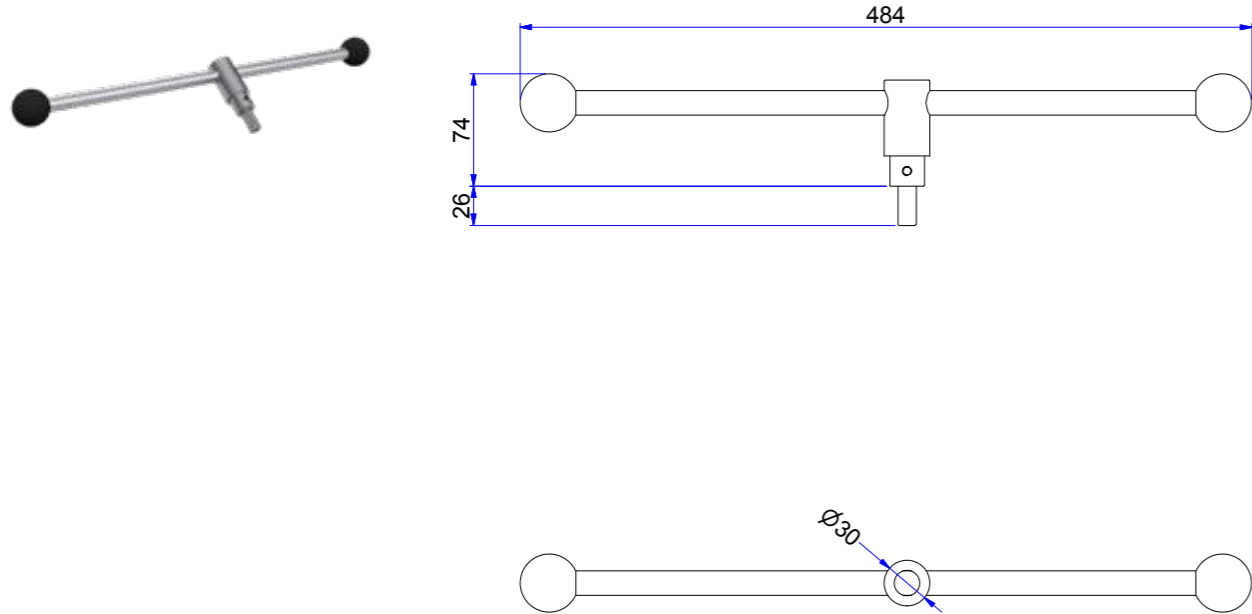
18851 - 18852



Tipo_type	A/mm
18851	150
18852	230

18802

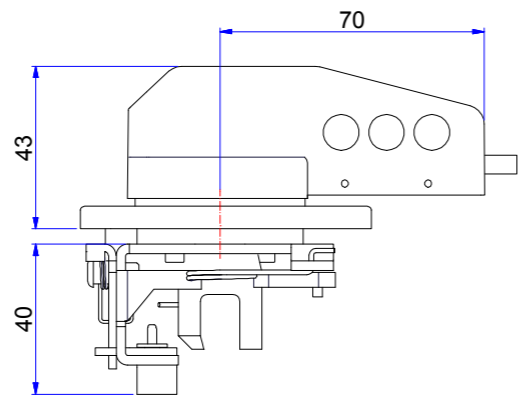




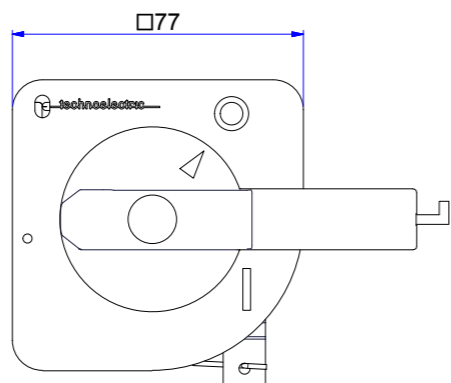
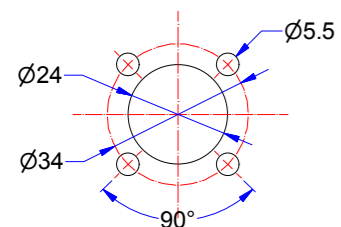
**MANIGLIA BLOCCO PORTA NERA  
CON DISPOSITIVO DI SBLOCCO CON ATTREZZO SPECIALE  
\_black door interlock handle with defeater mechanism (special tool)**

Tipo_type	TS043P	TS046P	TS056P	TS063P	TS073P	TS083P	TS093P	TS103P
Codice_code	18220	18222	18222	18222	18222	18224	18832 18850	18832 18850

18220



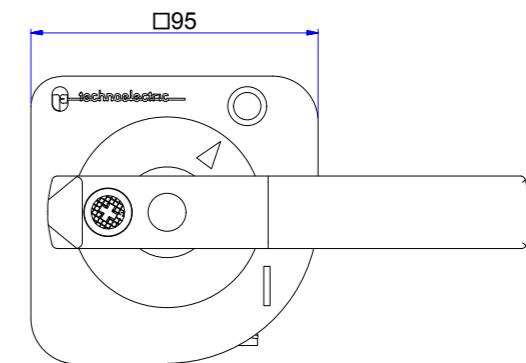
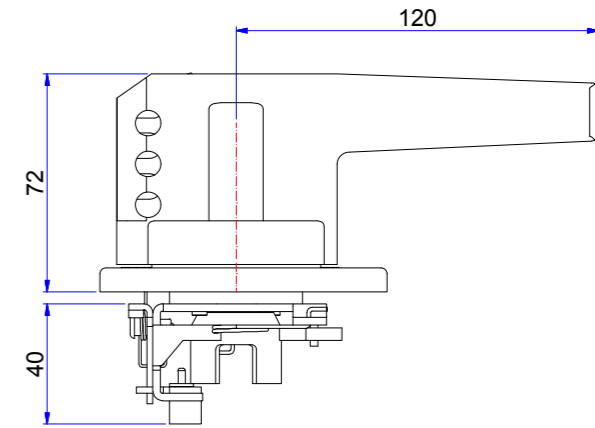
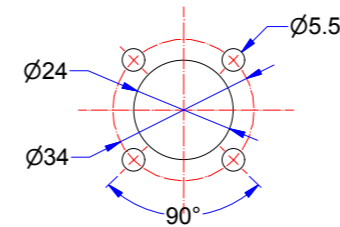
Foratura portella \_Door drilling



18222



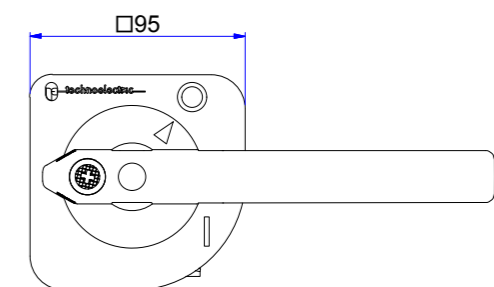
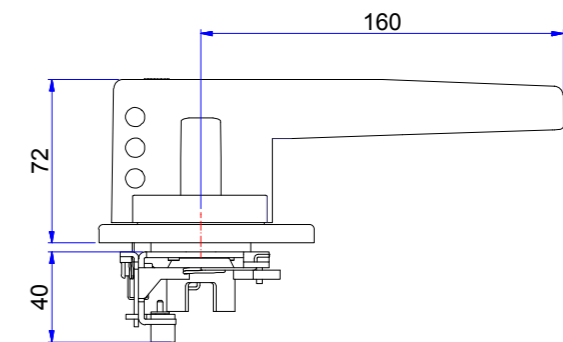
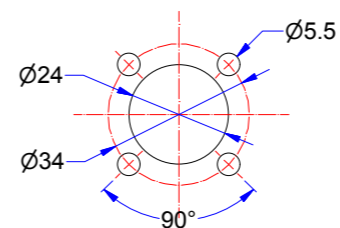
Foratura portella \_Door drilling



18224

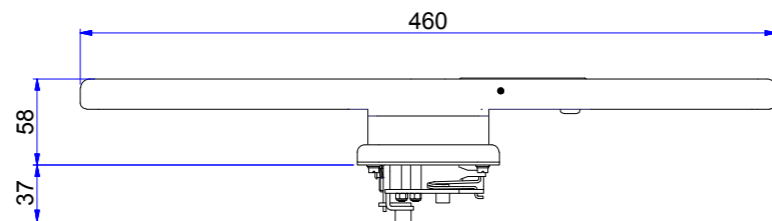


Foratura portella \_Door drilling

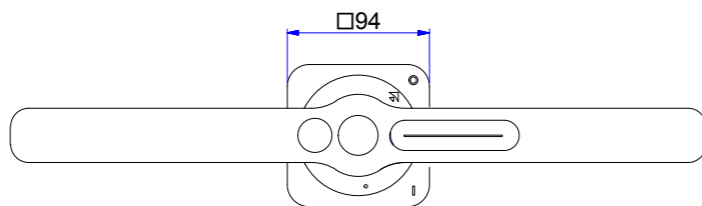
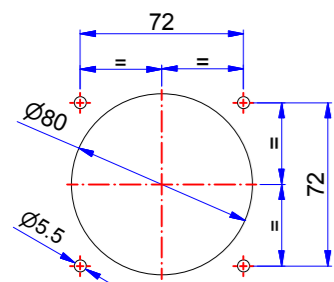




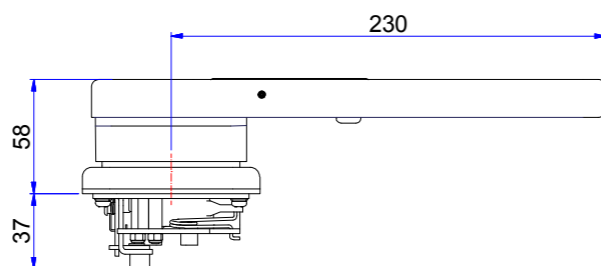
18832



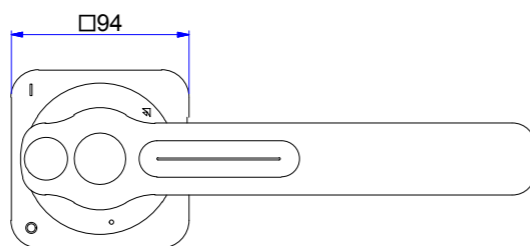
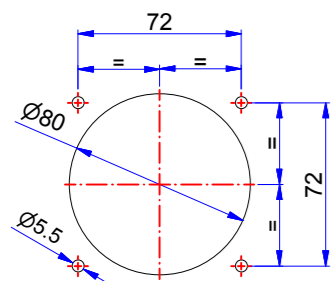
Foratura portella \_Door drilling



18850



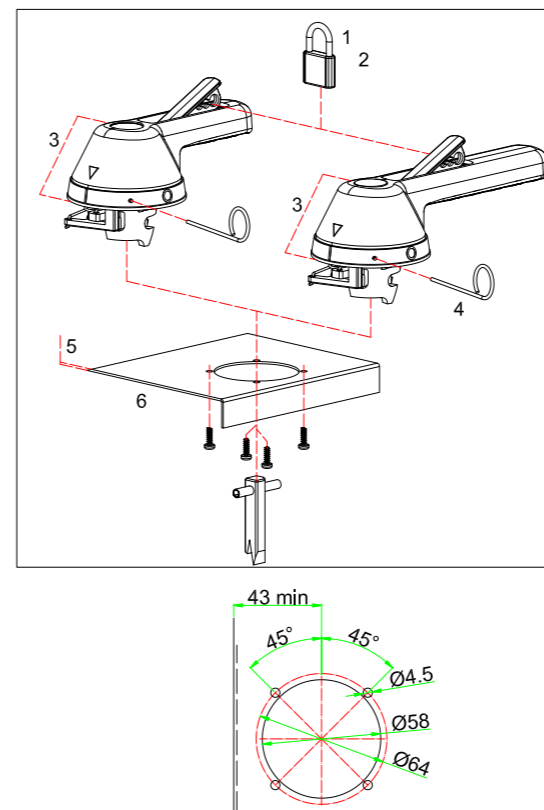
Foratura portella \_Door drilling



## MANIGLIA BLOCCO PORTA NERA CON DOPPIA FUNZIONE DI SICUREZZA PER TS P \_black interlock handle with double function of security for TS P

Adatta per montaggio su portella con dispositivo di blocco porta in posizione On Grado di protezione IP 65  
Disponibile anche nella versione per emergenza (rosso/gialla)

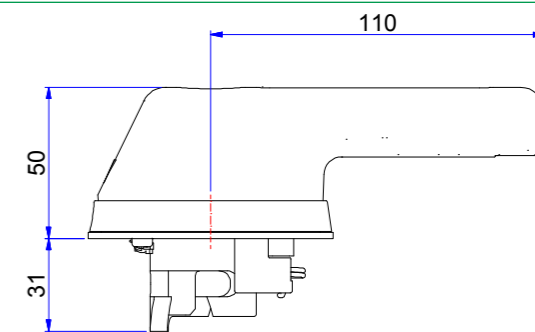
\_For door mounting with Door interlocking in "On" position IP 65 degree of protection  
Available also for emergency operation (red/yellow)



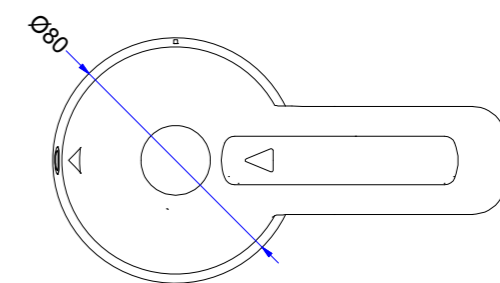
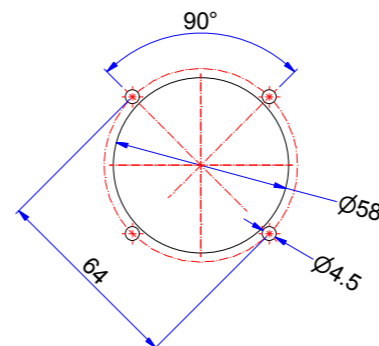
<b>1</b>	Lucchettabile (max 3 lucchetti 1xø8+2xø6) in posizione Off.	Padlockable in "Off" position (with max 3 padlocks of 1xø8+2xø6).
<b>2</b>	Apertura della portella impedita quando la maniglia è lucchettata in posizione di Off.	Door opening is prevented when the handle is padlocked in "Off" position.
<b>3</b>	Ingombro inferiore a 50 mm in profondità per permettere l'utilizzo anche in quadri a doppia portella.	Handle height less than 50 mm for suitability with two-doors type panels.
<b>4</b>	Permette, a mezzo di un apposito attrezzo, fornito con la maniglia, l'esclusione del dispositivo di blocco porta e quindi l'apertura della portella anche a interruttore in posizione di ON. Il dispositivo bloccoporta si ripristina automaticamente al chiudersi della porta.	With the use of the special tool (supplied), the door interlocking mechanism can be bypassed maintaining the switch in the "On" position and the door can be opened. The door interlocking mechanism is automatically re-established when door is closed.
<b>5</b>	Può essere montata su portelle di qualsiasi spessore.	Can be mounted on doors of any thickness.
<b>6</b>	Posizione della maniglia fissa quando la portella è aperta.	When the door is open, the position of the handle is fixed

Tipo_type	TS043P   TS046P	TS056P	TS063P	TS083P
Codice_code	18234	18234	18234	18236

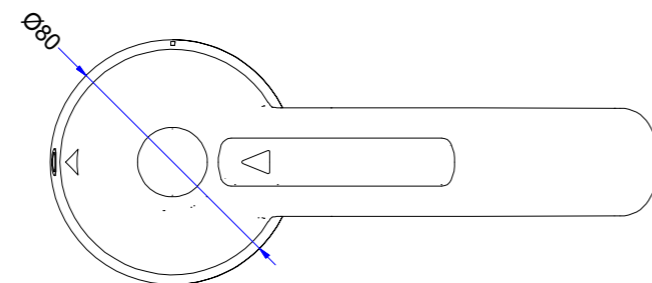
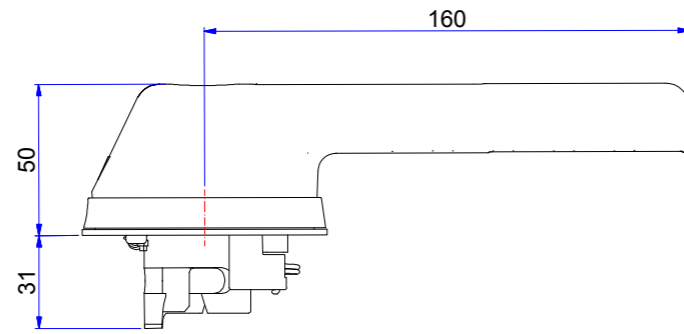
18234



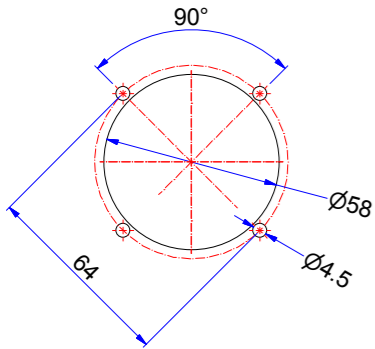
Foratura portella \_Door drilling



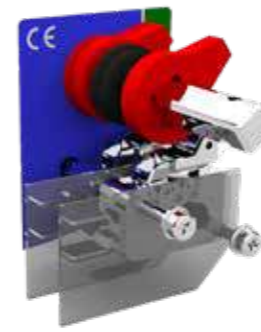
18236



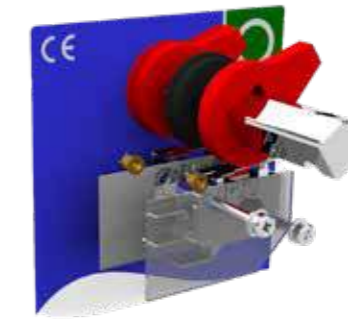
Foratura portella \_Door drilling



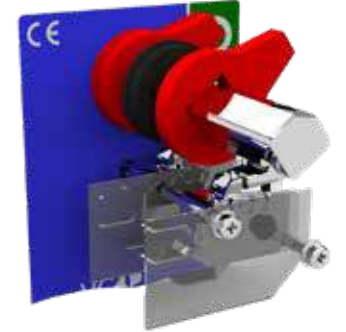
**CONTATTI AUSILIARI IN SCAMBIO 2NA + 2NC  
PER APERTURA ANTICIPATA**  
\_auxiliary contacts 2NO + 2NC  
activated before main contacts



18166



18164



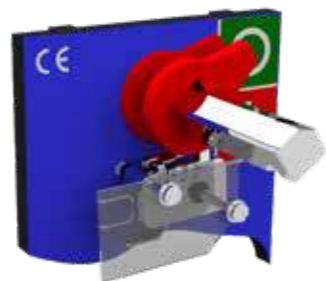
18161

Tipo_type	TS043P	TS063P	TS073P	TS083P   TS093P   TS103P
Codice_code	18166	18164	18161	18164

**CONTATTI AUSILIARI IN SCAMBIO 1NA + 1NC  
PER APERTURA ANTICIPATA**  
\_auxiliary contacts 1NO + 1NC  
activated before main contacts



18165



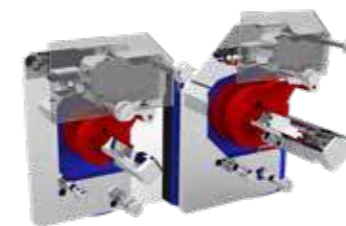
18163



18160

Tipo_type	TS043P	TS063P	TS073P	TS083P   TS093P   TS103P
Codice_code	18165	18163	18160	18163

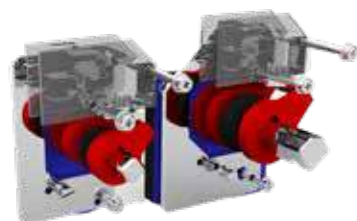
**CONTATTI AUSILIARI IN SCAMBIO 1NA + 1NC  
PER APERTURA POSTICIPATA**  
\_auxiliary contacts 1NO + 1NC  
activated after main contacts



Tipo_type	TS043P	TS063P	TS073P	TS083P   TS093P   TS103P
Codice_code	18120	18127	18127	18127

### CONTATTI AUSILIARI IN SCAMBIO 2NA + 2NC \_auxiliary contacts 2NO + 2NC

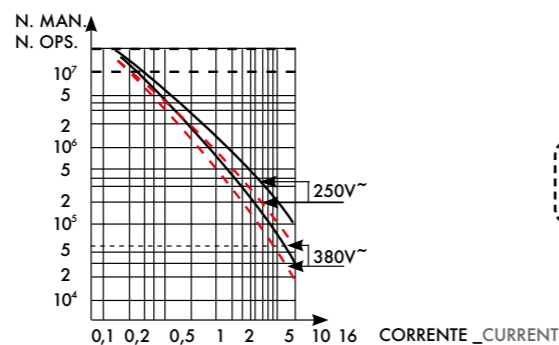
activated after main contacts



Tipo_type	TS043P	TS063P	TS073P	TS083P   TS093P   TS103P
Codice_code	18123	18128	18128	18128

Contatti ausiliari in scambio  
Apertura anticipata rispetto  
all'apertura dei contatti  
principali dell'interruttore Portata  
nominale 16A  
Portata termica 20A

\_Auxiliary contacts  
break before make contacts switches  
Rated current 16A  
Thermal current 20A



### CONTATTI AUSILIARI IN SCAMBIO 1NA+1NC

\_auxiliary contacts 1NO+1NC



Tipo_type	TS046P	TS056P
Codice_code	18566 (paletta_lever)	

### CONTATTI AUSILIARI IN SCAMBIO 2NA+2NC

\_auxiliary contacts 2NO+2NC



Tipo_type	TS046P	TS056P
Codice_code	18568 (paletta_lever)	

### CALOTTA PROTEZIONE TERMINALI SUPERIORI

\_upper terminal cover



Tipo_type	TS043P TS046P	TS056P	TS063P	TS073P	TS083P	TS943P TS103P
Codice_code	18050	18052	18350	18054	18056	18058

### CALOTTA PROTEZIONE TERMINALI INFERIORI

\_lower terminal cover



Tipo_type	TS043P TS046P	TS056P	TS063P	TS073P	TS083P	TS943P TS103P
Codice_code	18051	18053	18351	18055	18057	18059

### SCHERMO PROTEZIONE CONTATTI PRINCIPALI

\_main contacts cover shield



Tipo_type	TS043P TS046P	TS056P	TS063P	TS073P	TS083P	TS943P TS103P
Codice_code	18060	18061	18360	18062	18063	18063



**SPESSORE RIALZO**  
\_risers



Tipo_type	VC1F	VC2F	VC3F	VC4F	VC5F
Codice_code	18290	18291	18292	18293	18293
Tipo_type	h/mm	Ø	Confezione 4 pezzi _4pcs pack		
VC1	5	15			
VC2	5	18			
VC3	10	17			
VC4-5	15	24			