



T-Switches Range







TL Contactors

TS disconnectors

TP Contactors

TELARC's multipurpose DC and AC current switches for multiple application

Rolling Stock

Energy generation

A state of the state of

Substation equipment

Industrial application



TP General Characteristics

TP is a range of small power, heavy duty contactors suitable for both AC and DC current in application up to 4000Vdc.

Designed to Railway Standards, TP models can be used in multiple applications, from Rolling Stock systems, to Rail Wayside, as well as inside Energy Conversion equipment and Industrial Power control applications.

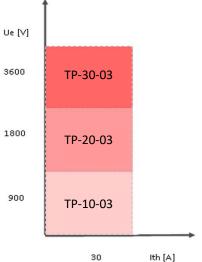
TP Contactors are based on a standardized contactor body, that accommodates 2 different busbar positions in order to accept different standard electrical connections

The main pole has a limited thermal current as it is specifically designed for Precharge applications. A very high opening capability, protects the contactor and the circuit during precharge failures.

The arc blow out system is based on a multiple split inside the arcchute with permanent magnets working in a fully bidirectional way.

The activation coil is for intermittent duty only, typical of the precharge application. The non-fully rated coil is anyhow suitable for a 20% intermittance duty on 10 minutes intervals.

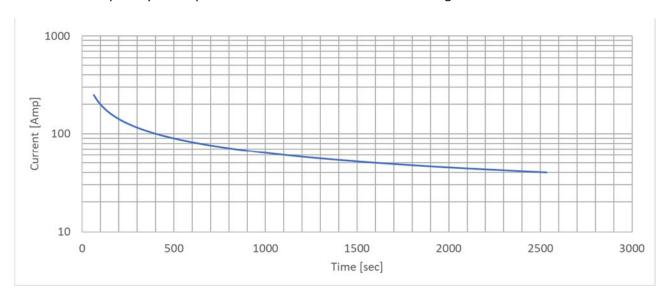
On multipole versions, each pole is driven by its coil, and all coils are connected in series.



The fixing interface can be customized to fit any installation requirement. Customized busbars shapes are available on request.

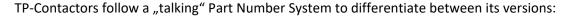
The mounting orientation can be horizontal or vertical, whereby springs are differentiated between orientations, hence the desired orientation has to be specified at order stage and is assumed to be with horizontal fixing base if not specified.

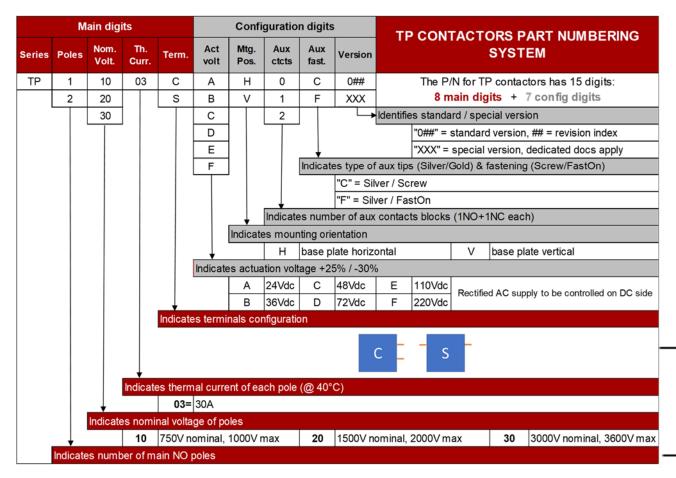
The overload capability of the pole can be determined from the following curve:





TP Models





The main digits identify:

- 1. number of poles,
- 2. nominal voltage (same external dimension of arc-chutes),
- 3. one size thermal current, intermittent coil duty
- 4. connection interface (shape of busbars)

The configuration digit are used to define

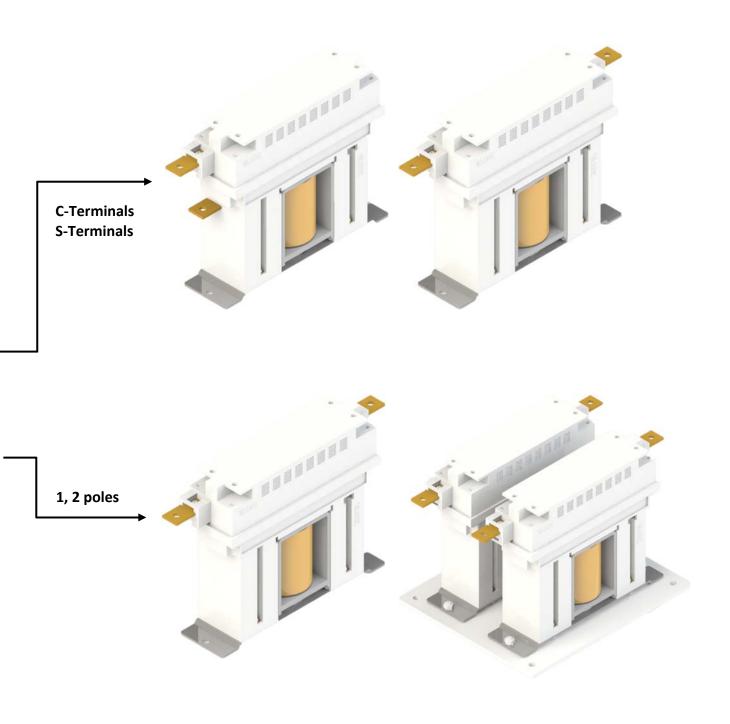
- 1. Control voltage (coil model)
- 2. Installation orientation of the base plate
- 3. Auxiliary contacts number (1NO+1NC blocks)
- 4. Auxiliary contacts type (tip material and fastening)
- 5. Standard / special versions (e.g. for auxiliary harnessing, special interface arrangements, etc)

TP contactors product documentation is released and updated online at www.telarc.it and includes:

- 1. A Product Chart PC for every applicable combination of main digits (standard versions), including all technical details, drawings, configuration information and spares part numbers.
- 2. A Product Specification PS for every special version released (full part number)
- 3. A Validation Report VR, including all details of type tests carried out on TP range contactors
- 4. A Product Manual PM, with detailed installation and maintenance instructions

TP P/N & Docs







TP Data Sheet

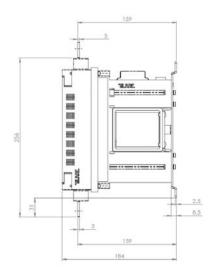
TP technical data are listed according to series-parallel combinations of voltage and current versions

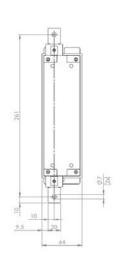
I IP IFCHNICAL DATA CHARL I 1		pole size	pole connection		TP-1-10	TP-1-20	TP-1-30	TP-2-10	TP-2-20	TP-2-30	
Sə	Rated Operational Voltage			Ue	900	1800	3600	900	1800	3600	V
	Rated insulation voltage				4000					V	
	Rated impulse withstand voltage			Uimp	25 25					kV	
	From air the smal surrent @40°C	none or	Ith	30			30		Α		
	Free air thermal current @40°C	-03	parallel	Ith	-			60		Α	
			none /	le	100	85	20	180	150	35	A
	Rated operational current	series	ie	100	83	20	160	130	33	_ ^	
	Nated Operational current	parallel	le	- 100			85	20	А		
		none /		7							
lod	Rated short-time withstand curr	series	Icw/						kA		
Main electrical characteristics of each main pole or combination of poles	Rated Short-time withstand curr	parallel	20ms		- 10				kA		
cteri			none /	 							
arae		series		200	170	35	330	250	55	Α	
<u> </u>	Maximum breaking capacity DC	I=15ms		Ibc					.=0		
rica			parallel			-		200	170	35	Α
Pole			none /		200	200	00	700	550	4.45	
n el	cariac			11	390	300	80	700	550	145	Α
Mai	Maximum breaking capacity AC	соѕф=0,8		Iba				200	200	00	
sact		parallel			-		390	300	80	Α	
of 6	none /				2200				Α		
	Maximum making canacity DC T=	Maximum making capacity DC T=15ms series parallel							_ ^		
	Traking capacity De 1				_			4000		Α	
		none /			2200					Α	
	Maximum making capacity AC co	sφ=0,8	series	Ima				ı			
	parallel				-			4000			Α
	Floorised and warmen Olla / la				90			200			
	Electrical endurance @Ue / Ie					8000 <1					cycles
	Critical current reversing polarization										Α
Other mechanical and control characteristics	Overvoltage category EN50124-1				PD3/OV3 A2/C3						
	Component category/ Operational frequency Shock and vibration				EN 61373 cat.1B						
	Mechanical endurance				2mio					cycles	
al ar risti	Closing Power consumption				70 140				W		
nechanical and characteristics	Mechanical operation time [open -close]				50-70					msec	
cha	Weight				2,5	2,5	2,5	5,5	5,5	5,5	kg
me ct	Operational Temperature (IEC50125-1)				-40°C +75°C					3,3	°C
her	Storage Temperature				-50°C + 85°C					°C	
ŏ	Operational altitude				<2000					m	
Routine testing	Operation tolerance @20°C ambient				70%-125% Uc						
	Assembly verification				100%						
	Hi Pot test main poles to ground & grounded aux [50Hz 1min]				7000					V	
Ro tes	Hi Pot test between open poles [50Hz, 1min]				7000					V	
	Hi Pot test coil and aux to ground [50Hz, 1min]					1500				V	

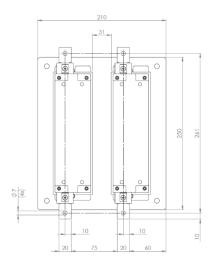


TP Sizes

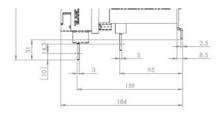
Overall dimension drawing 1P and 2P:





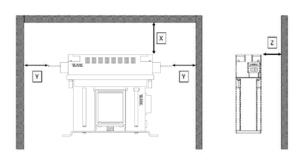


S-Terminals



C-Terminals

Installation insulating distances:



	Nominal voltage								
mm	To metal (grounded) parts			To insulated parts					
	1000V	2000V	3000V	1000V	2000V	3000V			
Х	50	50	50	50	50	50			
Υ	50	50	50	30	30	30			
Z	50	50	50	20	20	20			

Fixing plate insulation shall be adopted to safeguard creepage to ground when needed, depending on connection polarity adopted.

All information contained in the present document is subject to change without notice



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