



**TELAAC**

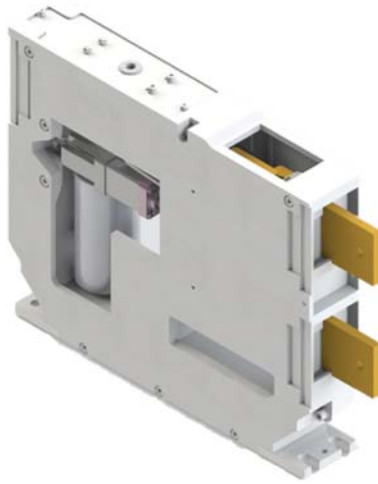
**TP-PANORAMA**



**T-Switches Range**



**TL Contactors**



**TS disconnectors**



**TP Contactors**

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

**Rolling Stock**



**Energy generation**



**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 accomodates 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 archute with permanent magnets working in a fully bidirectional way.

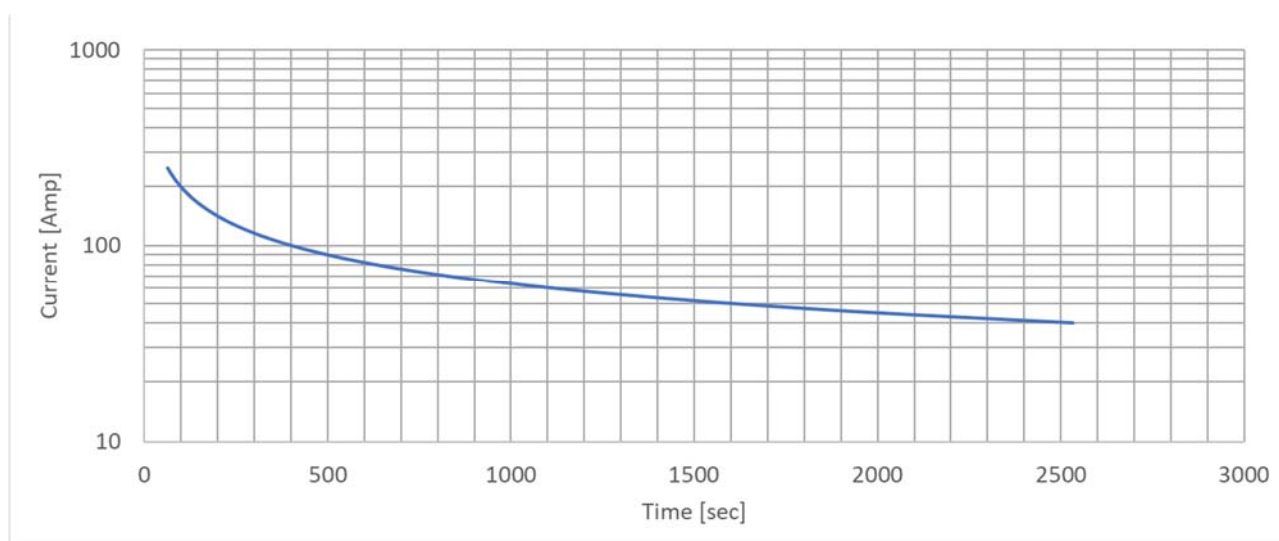
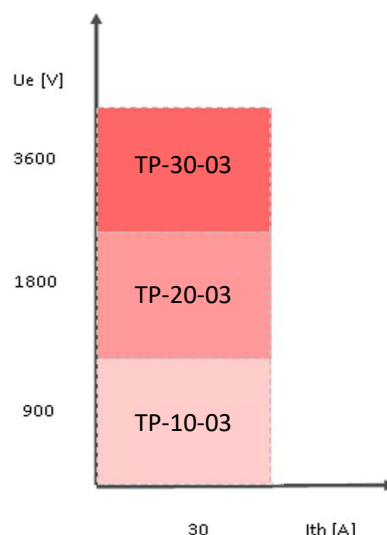
The activation coil is for intermittent duty only, typical of the precharge application. The non-fully rated coil is anyhow suitable for a 20% intermittance duty on 10 minutes intervals.

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 diferentiated 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:





C-Terminals  
S-Terminals



1, 2 poles





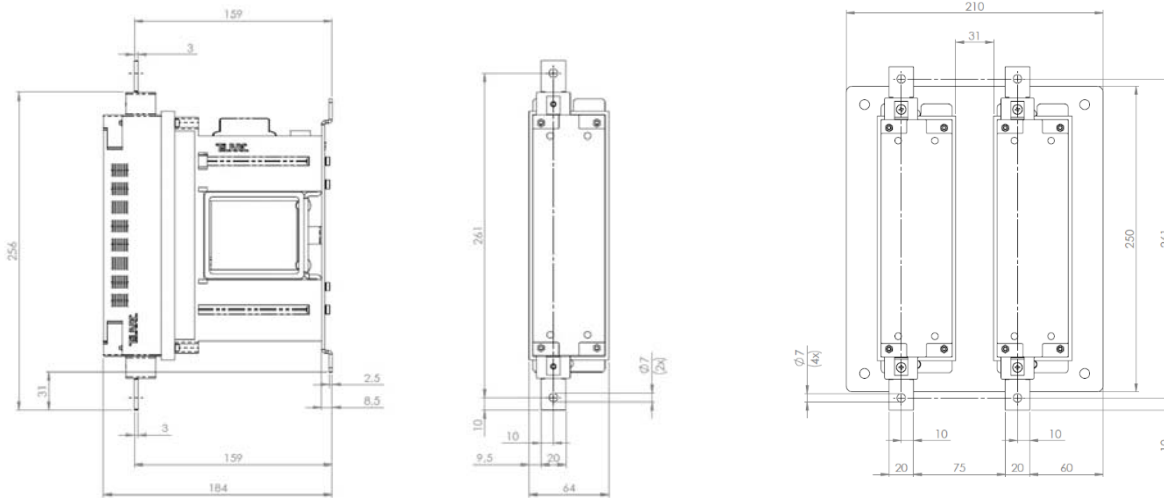
## TP Data Sheet

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

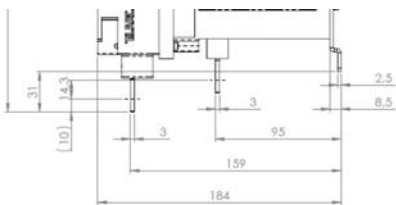
TP TECHNICAL DATA CHART				TP-1-10	TP-1-20	TP-1-30	TP-2-10	TP-2-20	TP-2-30		
		pole size	pole connection								
Main electrical characteristics of each main pole or combination of poles	Rated Operational Voltage			Ue	900	1800	3600	900	1800	3600	V
	Rated insulation voltage			Ui	4000						V
	Rated impulse withstand voltage			Uimp	25			25			kV
	Free air thermal current @40°C	-03	none or	Ith	30			30			A
		-03	parallel	Ith	-			60			A
	Rated operational current	none / series		Ie	100	85	20	180	150	35	A
		parallel		Ie	-			100	85	20	A
	Rated short-time withstand current	none / series		Icw/ 20ms	7						kA
		parallel			-			10			kA
	Maximum breaking capacity DC T=15ms	none / series		Ibc	200	170	35	330	250	55	A
		parallel			-			200	170	35	A
	Maximum breaking capacity AC cosφ=0,8	none / series		Iba	390	300	80	700	550	145	A
		parallel			-			390	300	80	A
	Maximum making capacity DC T=15ms	none / series		Imc	2200						A
		parallel			-			4000			A
Maximum making capacity AC cosφ=0,8	none / series		Ima	2200						A	
	parallel			-			4000			A	
Electrical endurance @Ue / Ie				8000						cycles	
Critical current reversing polarization				<1						A	
Other mechanical and control characteristics	Overvoltage category EN50124-1			PD3/OV3							
	Component category/ Operational frequency			A2/C3							
	Shock and vibration			EN 61373 cat.1B							
	Mechanical endurance			2mio						cycles	
	Closing Power consumption			70			140			W	
	Mechanical operation time [open -close]			50-70						msec	
	Weight			2,5	2,5	2,5	5,5	5,5	5,5	kg	
	Operational Temperature (IEC50125-1)			-40°C +75°C						°C	
	Storage Temperature			-50°C + 85°C						°C	
	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	
	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:

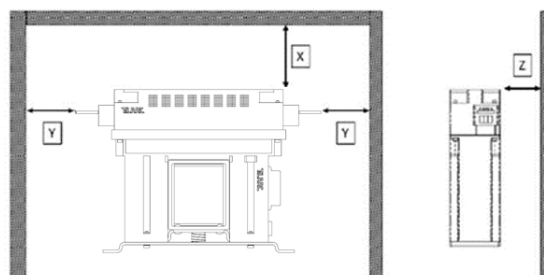


### S-Terminals



### C-Terminals

Installation insulating distances:



mm	Nominal voltage					
	To metal (grounded) parts			To insulated parts		
	1000V	2000V	3000V	1000V	2000V	3000V
X	50	50	50	50	50	50
Y	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*

**TELAARC**

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