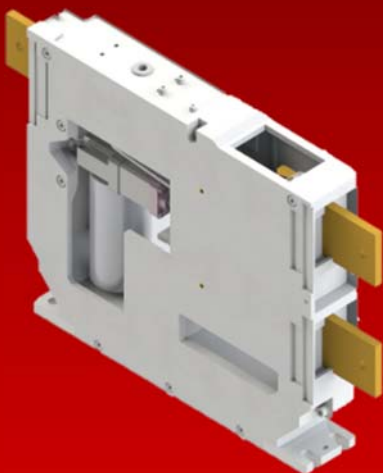


A blurred, high-speed photograph of a train track stretching into the distance under a blue sky with light clouds. The tracks are flanked by green fields and utility poles. The image has a motion blur effect, suggesting speed.

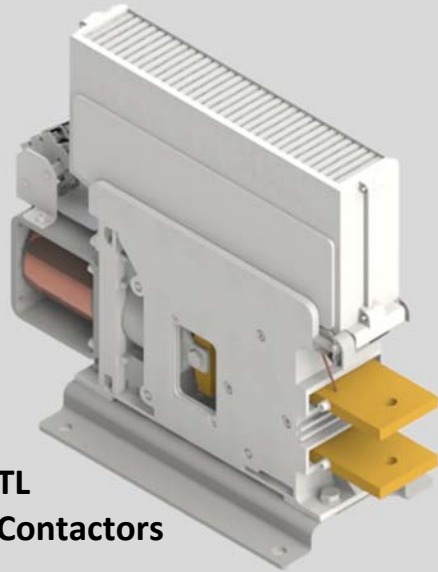
TELAARC

T-SERIES OVERVIEW



T-Series Overview

T-Contactors

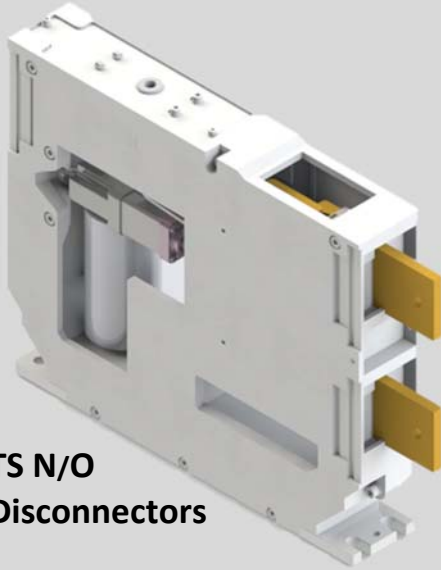


**TL
Contactors**



**TP
Contactors**

T-Disconnectors



**TS N/O
Disconnectors**



**TS C/O
Disconnectors**

Designed to Railway Standards but suitable for multiple application



Rolling stock



Substation equipment



Energy generation

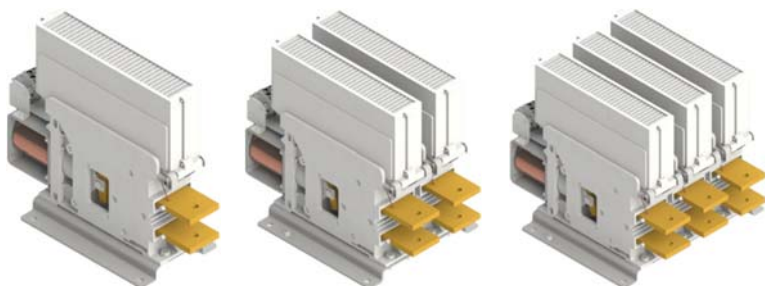


Industrial application

TL Contactors

1-2-3 Poles Execution

Independent poles assembled on single plate



400-700-1000A thermal current versions

Differentiation through busbars width



1000-2000-3000V nominal voltage versions

Differentiation through arc chute size



C – T – V connections arrangement

Differentiation by busbars kit



- High power heavy duty contactors, for DC or AC current switching.
- Fully compliant to Railway Standards
- TL models are typically used in all applications, from Rolling Stock to Rail Wayside, from Energy Conversion equipment to Industrial Power applications

Technical Features:

- ✓ Indirect blow out coil with arcing contact
- ✓ Full bidirectionality and absence of critical currents both in direct and reverse sense.
- ✓ Long main contact life
- ✓ Strong launch power coil, with electronic economer to reduce absorbed power during closing times.
- ✓ Up to 4 Crouzet IP67 sealed snap action auxiliary contact blocks with 1NO+1NC contacts each
- ✓ Simple maintainability with easy extractability of all consumable items.
- ✓ Customized interface fixing or connections arrangement on request

TS Disconnectors

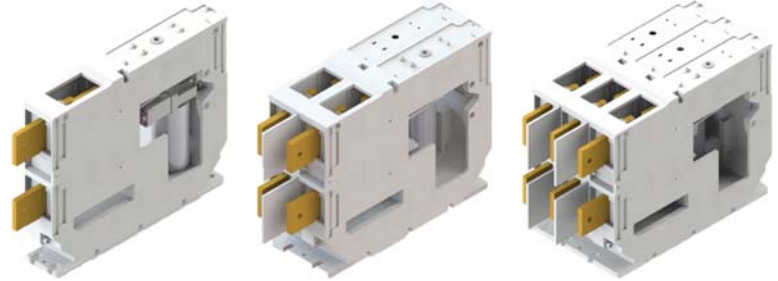
- High power off load disconnectors, for up to 3kV nominal voltage
- Normally Open or Change Over pole configuration on each pole
- Fully compliant to Railway Standards
- TS models are typically used in Rolling Stock and Rail Wayside applications.

Technical Features:

- ✓ Operated by electric motor in fully bistable mode
- ✓ TS models can be equipped with additional on board mounted relays incorporating the control logic
- ✓ Up to 4 Crouzet IP67 sealed snap action auxiliary contact blocks with 1NO+1NC contacts each (per pole)
- ✓ Simple maintainability with easy extractability of all consumable items
- ✓ Double spring action contact clamps with high short circuit current withstand capability
- ✓ Customized interface fixing or connections arrangement on request
- ✓ Optional side mounted 300A/3000V auxiliary TSK pole with 1NO+1NC contacts (shown on T model)

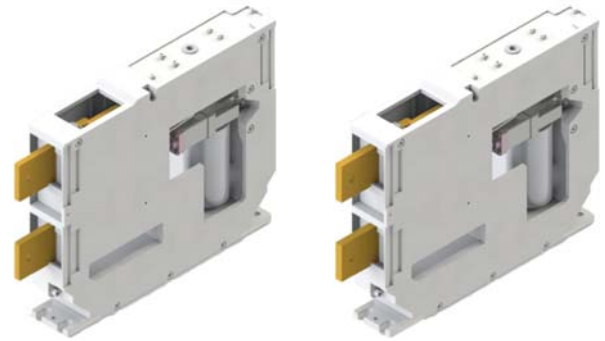
1-2-3 Poles Execution

All poles driven by single motor



800-1500A thermal current versions

Differentiation through busbars thickness



E-T-Y-C-S-F connections arrangement

Differentiation through busbar kit



TP Contactors

1 – 2 poles execution



C – S Connections arrangement



- Light power / light duty contactors, for DC or AC current switching.
- Fully compliant to Railway standards
- TP models are typically used in Rolling Stock or Industrial Inverter Capacitor pre-charging applications
- Arc twisting technology with full bidirectionality and absence of critical currents
- Intermittently rated main coil operating in rail extended range
- 30A thermal current and up to 3000V nominal voltage in compact dimensions
- Up to 2 Crouzet IP67 sealed snap action auxiliary contact blocks with 1NO+1NC contacts each

Functional Assemblies

Switches can be combined into preassembled functional modules, where several switches are installed on or inside a custom made frame, connected and combined with other functional elements like resistors, capacitors, inductances, sensors, or specific busbaring systems.

The design of such modules is done in strict coordination with the Customer to fit its specific functional and installation requirements. A dedicated project-specific validation plan is agreed and carried out on request



Main Benefits

- Optimized / simplified busbaring and interfacing / fixing arrangement.
- Faster / simplified installation and disinstallation processes
- Faster / simplified testing and verification process, as the units is fully pre-tested
- Overall lower cost due to the optimization of all 3 above aspects

Typical Modules (LRU)

- Input modules for DC traction converter with Line Contactor, Precharging Contactor and Pre Charging Resistor, eventual sensors, busbared to line terminals and harnessed to a LV connector
- System configuration modules for dual frequency / multivoltage AC/DC traction converters

T-Series Part Numbering

Main digits							Configuration digits					T-SERIES PART NUMBERING SYSTEM																																																																																							
Series	Model	Poles	Nom Volt	Th. Curr.	Term.	Act Volt	Mtg. Pos.	Aux Ccts	Aux fast.	Version																																																																																									
T	L	1	10	03	C	A	H	0	C	0##	<p>The T-series Part Number has 15 digits: 8 main digits + 7 configuration digits</p> <p>Identifies standard / special version "0##" = standard version, ## = revision index - product chart for main P/N "XXX" = special version - product specification for full P/N</p> <p>Indicates type of aux fastening "C" = screw terminals "F" = Fast-On terminals - silver contacts</p> <p>Indicates number of aux contacts blocks (1NO+1NC each) 0/1/2 available on all models 3/4 available on TL and TS only</p> <p>Indicates mounting orientation H base plate horizontal V base plate vertical</p> <p>Indicates actuation voltage +25% / -30%</p> <table border="1"> <tr> <td>A</td> <td>24Vdc</td> <td>C</td> <td>48Vdc</td> <td>E</td> <td>110Vdc</td> <td rowspan="2">Rectified AC supply to be controlled on DC side</td> </tr> <tr> <td>B</td> <td>36Vdc</td> <td>D</td> <td>72Vdc</td> <td>F</td> <td>220Vdc</td> </tr> </table> <p>Indicates terminals configuration</p> <table border="1"> <tr> <td>C</td> <td>S</td> <td>V</td> <td>F</td> <td>E</td> <td>T</td> <td>Y</td> <td>TL</td> <td>avail. as C / V</td> </tr> <tr> <td colspan="7"></td> <td>TP</td> <td>avail. as C / S</td> </tr> <tr> <td colspan="7"></td> <td>TS</td> <td>avail. as C / S / F / E / T / Y</td> </tr> </table> <p>Indicates thermal current of each pole (@ 40°C)</p> <table border="1"> <tr> <td>03=</td> <td>30A</td> <td>04=</td> <td>400A</td> <td>07=</td> <td>700A</td> <td>08=</td> <td>800A</td> <td>10=</td> <td>1000A</td> <td>15=</td> <td>1500A</td> </tr> <tr> <td colspan="3">TL</td> <td colspan="3">available as 04 / 07 / 10</td> <td colspan="3">TP</td> <td colspan="3">available as 03</td> <td colspan="2">TS</td> <td colspan="2">available as 08 / 15</td> </tr> </table> <p>Indicates nominal voltage of poles</p> <table border="1"> <tr> <td>10</td> <td>750V nominal, 1000V max</td> <td>20</td> <td>1500V nominal, 2000V max</td> <td>30</td> <td>3000V nominal, 3600V max</td> </tr> </table> <p>Indicates number of main NO poles</p> <table border="1"> <tr> <td>TL</td> <td>available as 1-2-3 NO (C/V) poles</td> <td>TP</td> <td>available as 1-2 NO (C/S) poles</td> <td>TS</td> <td>available as 1-2-3 NO (C/S/E/T) or CO (F/Y) poles</td> </tr> </table> <p>Identifies model</p> <table border="1"> <tr> <td>TL</td> <td>Line Contactor, high power/current</td> <td>TP</td> <td>Precharge Contactor, intermittent, low power/current</td> <td>TS</td> <td>Disconnecter, high current off load switch</td> </tr> </table> <p>Contactor series identification</p>			A	24Vdc	C	48Vdc	E	110Vdc	Rectified AC supply to be controlled on DC side	B	36Vdc	D	72Vdc	F	220Vdc	C	S	V	F	E	T	Y	TL	avail. as C / V								TP	avail. as C / S								TS	avail. as C / S / F / E / T / Y	03=	30A	04=	400A	07=	700A	08=	800A	10=	1000A	15=	1500A	TL			available as 04 / 07 / 10			TP			available as 03			TS		available as 08 / 15		10	750V nominal, 1000V max	20	1500V nominal, 2000V max	30	3000V nominal, 3600V max	TL	available as 1-2-3 NO (C/V) poles	TP	available as 1-2 NO (C/S) poles	TS	available as 1-2-3 NO (C/S/E/T) or CO (F/Y) poles	TL	Line Contactor, high power/current	TP	Precharge Contactor, intermittent, low power/current	TS	Disconnecter, high current off load switch
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T-Series Documentation

All Telarc switches have a talking part number, composed by few main digits and few configuration digits:

- Main digits = Father Part Number – fully defines the „electrical machine“
- Configuration digits = Son Part Number – defines control & auxiliary parts and accessories

Document type	Content	Applicable to	Existing documents	Available
Panorama	General overview with detailed technical information on each T sub-range	Any family TL/TS/TP	3	Online at www.telarc.it
Operating manual	All information on installation / use / maintenance of each T sub-range	Any family TL/TS/TP	3	On request at tecdept@telarc.it
Validation report	All information on specific type tests carried out on each T sub-range	Any family TL/TS/TP	3	On request at tecdept@telarc.it
Product Chart	All detailed technical information of a specific „Father Part Number“ including „Son“ configuration info	Any Father Part Number	102	Online at www.telarc.it
Product Specification	More detailed information of a specific „Father-Son“ combination configured as „Special“	Any „Special Part Number“ (full)	on demand	sent to dedicated Customers only

TELARC in brief

HANDLING THE CURRENT

Established in 2017 as newest member of the TELEMA Group, TELARC is exclusively dedicated to the design, sales and production of electromechanical and electronic switching devices

LOCAL, EVERYWHERE

TELARC is based in Milan, Italy, where all R&D activities are centralized while sales, production and service activities can be localized in own or TELEMA-subsidiaries and agencies active in local markets

ROOTED IN MILAN, ITALY

TELARC is located on the western side of Milan, where the development team is concentrated, in a 3500sqm facility that includes also the main warehouse and the manufacturing plant.



Competency

- Experienced team from the Railway business
- Great knowledge of Contactors and Disconnectors
- Dedicated plant with testing capability

Flexibility

- Focus on customer requests
- Partner for co-design
- Support in every stage of the project

Reliability

- Safety as a key value of the team
- Focus on people and competence retention
- Continuous investment on growth

... you can trust us

PRESENT GLOBALLY

TELEMA Group, with 24 companies in 12 countries and over 1800 employees, is the world leader in Power Electric Resistors for railway and industrial application.



TELARC

Via E. Fermi 50, 20090 Trezzano sul Naviglio (Milano) – Italy

Phone/Fax +39.02.4969.9540 – email: info@telarc.it

www.telarc.it