



Industrial Relays

Intelligent Building Applications



EVERY CONNECTION COUNTS



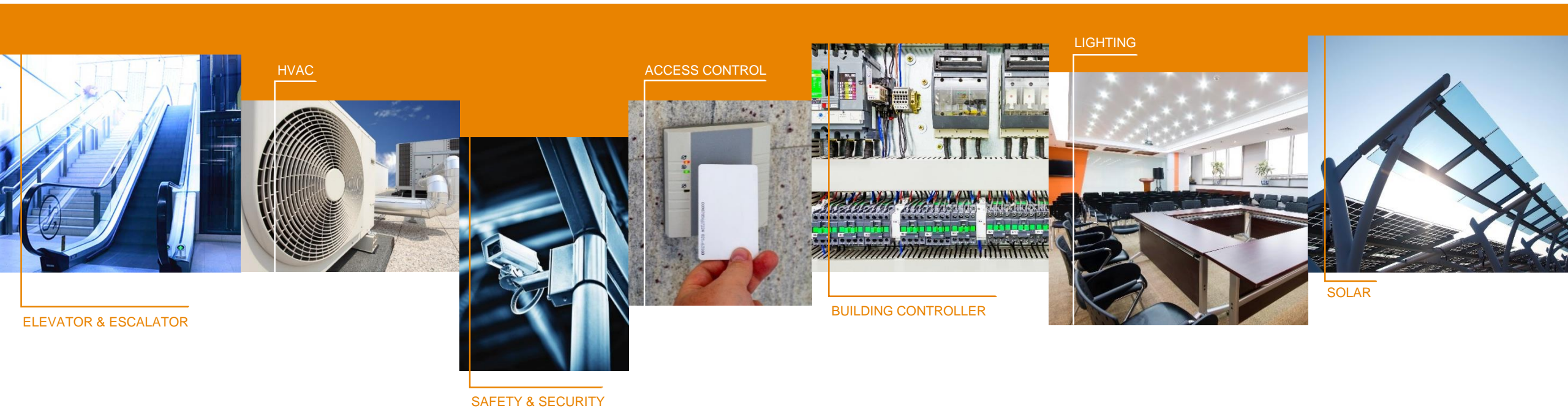
Introduction

TE Connectivity (TE) has extensive capabilities in the **engineering design and manufacture** of relays for demanding, high performance applications. Whether customers need commercial off-the-shelf products, components that must meet stringent specifications or highly specialized, custom-designed products, **TE can meet these requirements.**

TE's relays can be used **anywhere in the intelligent building system** — in elevators and escalators, control panels, motion control systems, lighting, building systems, solar, HVAC, and an array of safety-critical applications to mention just a few. TE's relays are **cost-effective, reliable and enhance productivity.** High-performance types are available and designed to withstand extreme shock, vibration, temperature and altitude. TE offers the broadest range of relays and contactors in the world with a portfolio including products from **AGASTAT, AXICOM, Potter and Brumfield, PRODUCTS UNLIMITED, SCHRACK, OEG** as well as **TE.**

In this Application Guide, you can find TE's relay products suitable for use in Building Equipment and Automation, Lighting and Solar applications. On the last page you can find a selection of preferred part numbers.

Intelligent Buildings Applications



Building Equipment

Elevator / Escalator

HVAC

Elevator & Escalator




















Description

TE provides high performance elevator and escalator relay solutions to keep people on the move all over the world. These relays help keep people safe and the machines working all the time, anytime.

Relays for Elevators and Escalators include:

- **Force Guided Relays** are primarily used in for floor and door control, emergency shut off and over speed control. They ensure that the safety circuit switches off to a safe condition in the event of a failure. TE's Force Guided relays are compact, space efficient, low profile relays with force guided contacts to build up safety circuits
- **Solid State Relays** activates annunciator and indicator lights in elevator control panels. TE's Solid State Relays has a long life and low maintenance for high cycle rate applications. These relays are also suitable for harsh environment applications.
- **Panel Plug-in Relays** are used in non-safety circuits such as motor, cabin lighting and drive control. TE's broad portfolio of Panel Plug-in relays have a high reliability, long service life and come in a wide range of contact rating options to support various application loads .
- **Signal Relays** are used to switch low signals (non-safety) and for pilot duty in elevator control boards.
- **Power PCB Relays** are designed for PCB mounting primarily in elevator control sub systems, door control and illumination.

Force Guided Relays	Solid State Relays	Panel Plug-in Relays	Signal Relays	Power PCB Relays
 SR2M	 SSR / SSRT	 KHAU / PT	 IM	 T9A / T92
 SR4 D / M	 SSRA / C	 R10	 P2	 RZ
 SR6 D / M	 IO Modules	 KU / RM / MT		 RT / RP
 SRL7		 XT		 MSR / SNR

HVAC
















Description

TE's relay solutions are enabling customers to stay ahead of the trends in heating ventilation and air conditioning (HVAC) systems.

Relays for HVAC include:

- **Power PCB Relays** are used in thermostats, electric boilers (to switch on heating time), general pumps and fan control to name a few. Inrush capabilities and long life with high switching cycles combined with a high temperature range makes TE's Power PCB relays a solid choice for HVAC applications.
- **Solid State Relays** controls fuser lamps and drive motors in heating controls in thermostats and heating controls. TE's Solid State Relays are long life, low maintenance relays with low energy consumption able to operate in harsh environments.
- **Signal Relays** are primarily used in thermostats to switch heating systems (pilot duty). TE's flat, small size Signal Relays are high performance relays with switching current up to 5A.
- **Miniature PCB Relays** from TE offer low construction height combined with powerful switching. Primarily used in control units and thermostats, TE's Miniature PCB Relays include normally open or change over contact configurations providing variety and performance.
- **Panel Plug-in Relays** are suitable for building management and climate control systems. Used in fan and blower motor, compressor, and gas ignitor control circuits, TE offers a broad portfolio of competitively priced, highly reliable Panel Plug-in relays for HVAC applications.

Power PCB Relays	Solid State Relays	Signal Relays	Miniature PCB Relays	Panel Plug-in Relays
 T9A / T92	 SSR / SSRT	 IM	 PE	 KUHP
 RZ	 SSRA / C	 P2	 SNR	 R10
 RT / RP	 IO Modules			
 MSR				

Building Automation

Safety & Security

Access Control

Building Controllers

Safety & Security













Description

TE offers high performance building safety and security relay components that integrate into today's intelligent buildings..

Relays for Safety and Security include:

- **Solid State Relays** activates annunciator and indicator lights in security control systems. TE's Solid State Relays are long life relays with quiet operation, ideal for applications where noise is unacceptable.
- **Power PCB Relays** are mainly used in alarm systems such as smoke and fire detectors. Bi-stable coil versions are available for battery driven applications.
- **Signal Relays** are primarily used in alarm and security equipment through, for example, switch the motor to turn a security camera or switch the siren on in an alarm. TE's Signal Relays are small size, high reliability relays.
- **Inrush Power Relays** deals with high inrush currents needed to switch on lights. These relays are suitable for movement detectors and installation bus technology.
- **Miniature PCB Relays** from TE offer low construction height combined with powerful switching for fire and smoke detectors to switch on the alarm. TE's Miniature PCB relays includes bi-stable coil versions needed for battery driven systems to switch on for example emergency lights.

Solid State Relays	Power PCB Relays	Signal Relays	Miniature PCB Relays	Inrush Power Relays
 IO Modules	 T9A / T92	 IM	 PE	 RT-iPower
	 RZ	 P2		 RTX
	 RT / RP			
	 MSR / SNR			

Access Control










Description

TE provides relay components to keep people's everyday access controls running smoothly and keep people on the move. The relays also help ensure the security of today's intelligent buildings.

Relays for Access Control include:

- **Power PCB Relays** are primarily used to open doors (door controls, motor control) and in control panels. High switching capacity and sensitivity makes these relays from TE a solid solution for Access Control applications.
- **Signal Relays** from TE are small size, high reliability relays for electric door openers and door controls. TE's Signal Relays have a high resistance to overloads caused by lighting strokes for instance.
- **Miniature PCB Relays** are mainly used in door controls (motor control) and control panels. Compact size makes these relays from TE suitable in Access Control applications where space constraints are present.

Power PCB Relays	Signal Relays	Miniature PCB Relay
 T9A / T92	 IM	 PE
 RZ	 P2	
 RT / RP		
 MSR / SNR		

Building Controllers













Description

TE's relays enable Controllers to do their job in an efficient, safe and cost efficient way.

Relays for Building Controllers include:

- **Solid State Relays** controls fuser lamps and drive motors in for example heating, fan and blower control. TE's Solid State Relays consume less energy than electro-mechanical relays and have a long life time making them a solid choice for applications requiring high cycle rates.
- **Power PCB Relays** are mainly used in bus systems. thermostats, timers, interface modules, heating and cooling systems to name a few. TE's Power PCB Relays are high performance, high reliability relays complying with the global PCB footprints in the market.
- **Signal Relays** from TE are small size, high quality relays primarily used in main control boards to switch motors, heating systems, blowers etc.
- **Inrush Power Relays** from TE are designed for PCB mounting for inrush currents of up to 800A and are primarily used in lighting, movement sensors, wall sockets and bus systems.
- **Miniature PCB Relays** from TE offer low construction height combined with powerful switching; a key ingredient in for example shutter and room temperature control.

Solid State Relays	Power PCB Relays	Signal Relays	Inrush Power Relays	Miniature PCB Relays
 SSR	 T9A / T92	 IM	 RTX	 PE
	 RZ	 P2	 RT-iPower	
	 RT / RP			
	 EW60			

Lighting

Lighting














Description

TE's relays for lighting applications offers a wide range of inrush current capabilities and addresses the complete spectrum of requirements in the lighting industry.

Relays for Lighting include:

- **Solid State Relays** activates lights in for example traffic light controls and multi-level dimming. The low maintenance, harsh endurance of TE's Solid State Relays make them ideal for outdoor lighting applications.
- **Power PCB Relays** are mainly used in staircase timers, street lighting and movement detectors. TE's EW60 Power PCB relay offers switching capabilities up to 60A carrying load enabling switching the lights of an entire floor of a building or a complete street.
- **Signal Relays** from TE are robust against high voltages and are used to activate lights in, for example, emergency lighting and traffic signaling.
- **Inrush Power Relays** are especially suitable for electronic ballast and LED Lighting, with inrush current capabilities of up to 800A. Other applications include, movement detectors, remote controls and bus system actuators.
- **Miniature PCB Relays** are primarily used for emergency lighting and small lighting controls. TE's Miniature PCB relays are high performance relays suitable for lighting applications where space constraints are present.

Power PCB Relays	Signal Relays	Inrush Power Relays	Miniature PCB Relays	Solid State Relays
 T9A / T92	 IM	 RTX	 PE	 SSR
 RZ	 P2	 RT-iPower		 SSRA
 RT / RP				
 EW60				

Solar

Solar









Description

TE's relay solutions for Solar applications include Signal Relays and Power PCB Relays. This is a full range of relays to maximize security in the customer's solution.

Relays for Solar include:

- **Signal Relays** from TE are high reliability relays able to operate in harsh environments. Mainly used in solar control boards, these relays switches low voltages to for example switch the system off in case the solar system get's too hot.
- **Power PCB Relays** are designed for PCB mounting with normally open, normally closed or change over contacts. 1 or 2 pol contact configurations complete the product range. Wash tight or flux tight variations are available. For the solar market in particular, TE's:
 - **T9S & PCFN Relays** are specifically designed to meet the requirements of the solar industry. If the solar system is not capturing energy, these relays make a break from the grid. TE's solar relays are available with a contact gap up to 1.8mm for better isolation allowing for usage in high elevation environments. The low holding power of this relay help lower energy costs.
 - **RPII Relays**, a 2 pole relay with a 1.5mm contact gap are used to make a connection to ground for measurement purposes (voltage levels).

Power PCB Relays	Signal Relays
 T9A / T92	 IM
 T9S	 P2
 PCFN	
 RPII	

Preferred Part numbers

Preferred Part numbers

Relay Family	Relay Series	Part Number	Part Description
Force Guided Relays	SR2M	2-1415538-8	V23047-A1015-A501
		1-1393258-5	V23047-A1024-A501
		1-1415012-1	V23047-A1110-A501
		7-1415543-8	V23047-P1024-A501
	SR4M	3-1415055-1	SR4D4024
		4-1415053-1	SR4M4024
		9-1415055-1	SR4D4110
		6-1415054-1	SR4M4110
	SR6	1393260-7	V23050-A1024-A542
		1415015-1	V23050-A1024-A533
		1415017-1	V23050-A1024-A551
		3-1415543-3	SR6V6K18
	SRL7	6-1415027-1	SR6D4024
		2045880-4	SRL7-523-D012
Signal Relays	IM Series	2045880-8	SRL7-523-D024
		2-1462038-0	IM42NS
		1462037-1	IM01GR
		1-1462037-4	IM03GR
		6-1462037-7	IM46GR
		2-1462037-3	IM06GR
Panel Plug-in Relays	PT relay	1-1393154-2	PT570024
		8-1419111-7	PT570524
		9-1419111-1	PT570730
		7-1415541-0	PT570LC4
	PT accs	4-1419111-2	PT270024
		4-1415033-1	PT78740
		1-1415526-1	PT78742
		1860000-1	PT7874P
	XT relay	5-1415036-1	PTML0024
		7-1415036-1	PTML0730
		1887112-1	XT374LC4
		1887113-1	XT374T30
		1887210-3	XT484024
		1887211-9	XT484730
XT accs		1860306-1	RT78725
		6-1415035-1	RT78726
XT packs		1860200-1	RT7872P
		4-1415540-1	XT3S4LC4
	4-1415540-2	XT3S4R24	
	4-1415540-3	XT3S4S15	
MT relay	4-1415540-4	XT3S4T30	
	4-1415540-5	XT4S4LC4	
		7-1393091-0	MT321024
		1393092-2	MT326230

Relay Family	Relay Series	Part Number	Part Description
Panel Plug-in Relays	MT accs	1415035-1	MT78750
		8-1393163-0	MT28800
	KHAU	1-1393122-6	KHAU-11D12-12
		5-1393122-7	KHAU-17D12-24
		2-1393122-1	KHAU-17A11-24
		4-1393122-4	KHAU-17D11-24
		6-1393122-7	KHAU-17D12N-110
		1-1393766-0	R10-E1X2-115V
	R10	2-1393766-9	R10-E1Y1-SS1.0K
		7-1393765-0	R10-E1P2-115V
		1-1393766-4	R10-E1X4-V185
		6-1393765-9	R10-E1P2-V700
	KUP	7-1393117-8	KUP-14A15-120
		7-1393117-1	KUP-14AT5-120
1-1393118-4		KUP-14D15-24	
4-1393117-5		KUP-11D15-24	
KUHP	1-1393118-3	KUP-14D15-12	
	7-1393114-7	KUHP-11D51-12	
	6-1393114-9	KUHP-11A51-120	
	7-1393114-1	KUHP-11A51-240	
RTX	7-1393114-3	KUHP-11D11-24	
	7-1393114-8	KUHP-11D51-24	
	1937650-5	RTX3-1AT-B012	
	1937650-6	RTX3-1AT-B024	
Power PCB Inrush Relays	RT Inrush	1937650-8	RTX3-1AT-C012
		1937650-9	RTX3-1AT-C024
		2-1393240-7	RT33LA12
		2-1393240-8	RT33LF12
	RT Inrush Power	3-1393240-3	RT33L012
		3-1393240-5	RT33L024
		7-1393239-3	RT31L012
		1-1415898-9	RTS3L012
	T9A Series	2-1415898-3	RTS3LA12
		2-1415898-5	RTS3LF12
		1415898	RTS3T012
		1415898-2	RTS3TA12
	T92 Series	3-1419104-1	T9AS2D22-24U
		4-1393210-5	T9AV1D12-22U
T9S Series	2-1419142-0	T9AV2D12-22U	
	4-1393210-7	T9AV5D12-22U	
		6-1393211-2	T92P7A22-240
		6-1393211-3	T92P7A22-277
		2027395-1	T9SV1K15-12
		2027395-3	T9SV1K15-12S

Relay Family	Relay Series	Part Number	Part Description
Power PCB Relays	RZ Series	4-1415899-9	RZ03-1A3-D012
		5-1415899-0	RZ03-1A3-D024
		5-1415899-4	RZ03-1C3-D012
		5-1415899-5	RZ03-1C3-D024
	RT Series	9-1393239-5	RT314012
		9-1393239-6	RT314015
		6-1393243-3	RT424012
		6-1393243-8	RT424024
	RT Inrush	1393243-4	RTE24012
		2-1393240-7	RT33LA12
		2-1393240-8	RT33LF12
		3-1393240-3	RT33L012
	RP Series	3-1393240-5	RT33L024
		7-1393239-3	RT31L012
1-1415538-4		RP920145	
6-1393234-8		RP421024	
EW60	5-1393234-1	RP420024	
	2071366-1	EW60-1A3-BL12D04	
	2071366-2	EW60-1A3-CL12D04	
	2071366-3	EW60-1A3-BL24D04	
MSR Series	2-1393222-0	V23061A1005A302	
	3-1393222-9	V23061A1007A302	
SNR Series	2-1393236-7	V23092-A1012-A301	
	2-1393236-4	V23092-A1024-A301	
PCFN Series	1461193-6	PCFN-106D2M,000	
	1461193-7	PCFN-109D2M,000	
	3-1419153-5	PCFN-112D2M,000	
	1721929-1	PCFN-112H2MG,000	
Miniature Power PCB Relays	PE Series	1461193-9	PCFN-124D2M,000
		7-1415539-4	PE013012
		5-1415535-5	PE013024
		1393219-6	PE014012
	SSRT	1-1393219-0	PE014024
		9-1415389-1	PE014F02
		3-1415390-1	PE014F12
		7-1415390-1	PE014H02
		1-1415391-1	PE014H12
		2-1393030-0	SSRT-240A25
	IO Modules	1-1393028-2	IACM-5E
		6-1393028-9	OAC-5
		4-1393028-0	OACM-5H
		1393030-6	SSR-240D125
SSR	1-1393030-0	SSR-240D50	
	3-1393030-0	SSR-480D25	



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October 2016 FS

