



System pro M compact®

# Modular transformer range

## The right power for your application



## General information Modular transformers

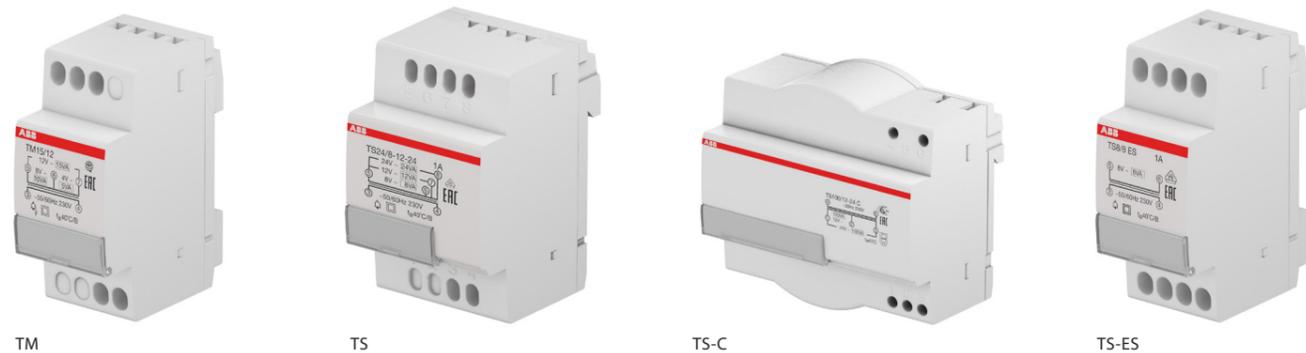
The new TM and TS extend the proven System pro M compact® series with a wider range of modular transformers. They have been designed to provide SELV protection according to worldwide international standards.

Power for SELV circuits in households, tertiary and industrial applications is supplied by transformers that guarantee separation between circuits and keep the end user protected from accidental contact. Installed on DIN-Rail, they can be integrated in consumer units and be used for discontinuous and continuous applications.

The range of System pro M compact® modular transformers consists of:

- the TM range of bell transformers, with secondary voltages of 12-24 V and a maximum rated power of 10-15-30-40 VA;
- the TS range of bell transformers, with secondary voltages of 8-12-24 V and a rated secondary power of 8-16-24 VA;
- a series of safety transformers for general use, the TS-C range, with 12-24 V secondary and powers of 10, 16, 25, 40, 63 and 100 VA;
- the energy saving bell transformers TM-ES and TS-ES, with 50% of power loss reduction.

The benefit of an efficient product lasts for years.



TM

TS

TS-C

TS-ES

TM transformers are suitable for use in combination with loads that require a discontinuous supply at a safety extremely-low voltage (SELV). The most common application is providing a SELV protection for door bells and bathroom buzzers in residential environments.

TS transformers have the peculiarity of maintaining their temperature below the specified limits even after a short-circuit. They are in fact equipped with a thermal protective device which automatically restores when the transformer is sufficiently cooled down or the overload has been removed.

TS-C safety transformers are insulation transformers used for supplying SELV circuits or PELV circuits. In contrast to the bell transformers, TS-C transformers can be used to continuously supply low voltage loads and they have a reduced voltage drop value. Even after a short-circuit they maintain their temperature below the specified limits and are equipped with a thermal sensitive restoring device which automatically restores power when the transformer is sufficiently cooled down or the overload has been removed.

Thanks to the new energy savings ranges, TM-ES and TS-ES, power losses are restrained by the 50%, to help energy saving in residential and commercial buildings.

## Main features of the new range Modular transformers

### Reliability

High quality approvals guarantee compliance safety.

### Compactness

The compact dimensions enable to save space in your switchboard. TS-C 100 VA modular transformer for continuous use is now available in only 6 modules.

### Label holder

Tidy and clearly organized consumer unit with the new label holder.

### Innovative

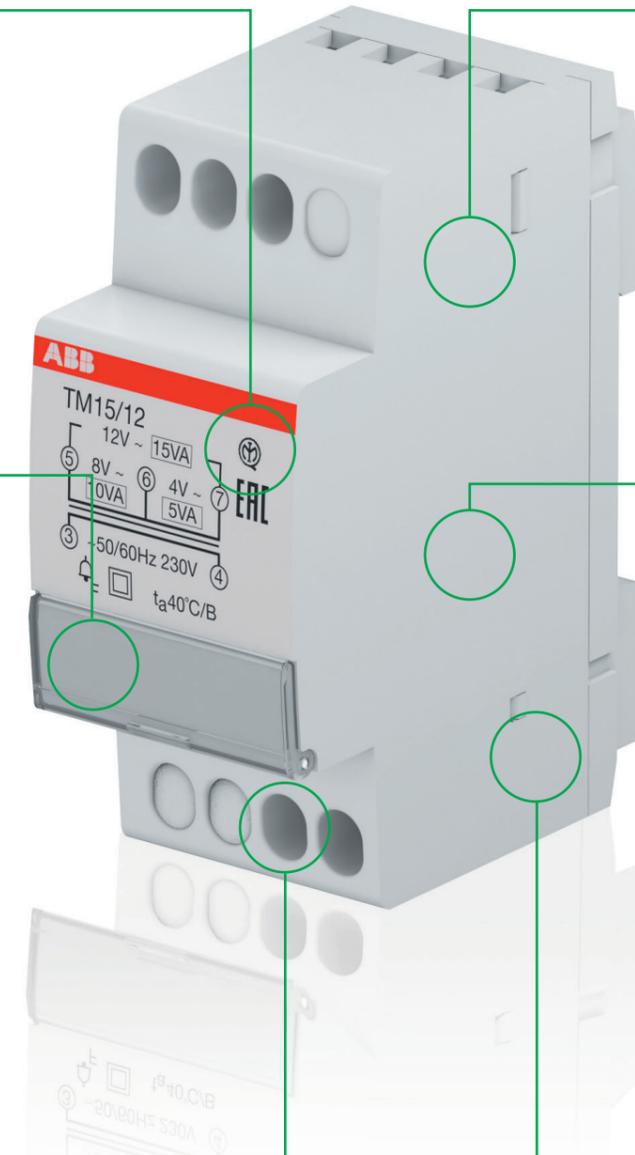
Energy saving up to 50% is guaranteed with TM-ES and TS-ES bell transformers for residential and commercial applications.

### Safe

Faster and error-proof wiring thanks to sealed terminals holes. Fail safe operation and excellent safety are assured thanks to the perfect isolation and separation between the primary and secondary circuits.

### Completeness

Complete offer of low voltage bell transformers, with a wide range in terms of rated power and voltage. The new range of TM and TS extends the actual range of ABB Modular DIN-Rail Transformers up to 100 VA and with new energy saving bell transformers.



# Applications Modular Transformers

**Bell transformers**  
Bell transformers (TM and TS) are suitable for loads that require discontinuous supply at extremely safety low voltage (12 to 24 V) and are therefore mainly used in residential application in combination with bells and buzzers for public and tertiary acoustic signaling. The ABB range of bells and buzzers includes modular versions for discontinuous use (SM1, RM1) and modular transformers that combine in a unique solution both the signaling and transformer functionalities (TSM, TSR).



Ideal for small apartments, student residences etc.

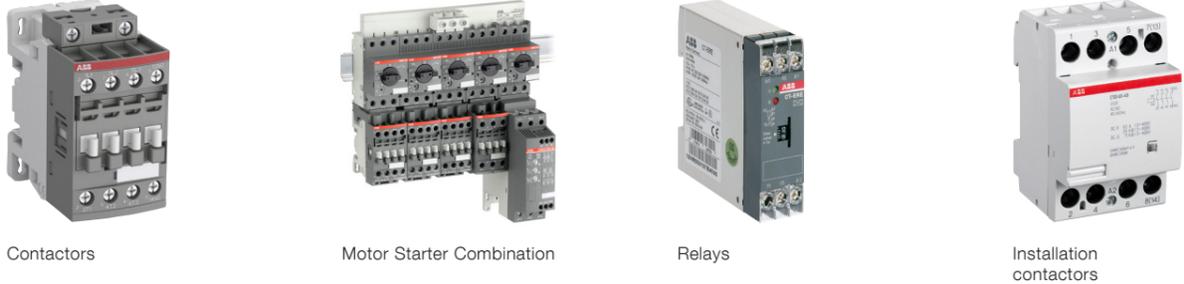


For more information ask local ABB sales organisation.

# Applications Modular Transformers

**Safety transformers**  
Transformers for continuous use (TS-C) are mainly used in industrial and tertiary sector when continuous power supply is needed, i.e. in combination with Small contactors, PLCs, electrical boards or SELV circuits.

The range of safety modular transformers is now even wider with the low rated power version of 10 and 16 VA for residential and industrial applications and the 100 VA transformer now a DIN-Rail mounting in very small dimensions specifically developed for automation applications.



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# Technical Data Modular Transformers



TM 15/12

TM		
Primary rated voltage Un	[V]	230 a.c.
Secondary rated voltage Un	[V]	4, 8, 12, 24
Tolerance on secondary voltage (with load)	[%]	+/- 15% (according to standards)
Rated frequency	[Hz]	50/60
Rated power (discontinuous use)	[VA]	10, 15, 30, 40
Power loss (off load)	[W]	<2.5 (TM4, TM8), <3 (TM30, TM40), <1.25 (TM15 ES)
Modules	[No.]	2 (TM10, TM15), 3 (TM30, TM40)
Cable section	[mm <sup>2</sup> -AWG]	2.5 - 14
Tightening torque	[Nm]	0.5
Protection degree		IP 20
Standards		IEC/EN 61558-2-8
Approvals		IMQ EAC



TS24/8-12-24

TS		
Primary rated voltage Un	[V]	230 a.c.
Secondary rated voltage Un	[V]	4, 6, 8, 12, 24
Tolerance on secondary voltage (with load)	[%]	± 15% (according to standards)
Rated frequency	[Hz]	50/60
Rated power (discontinuous use)	[VA]	8, 16, 24
Power loss (off load)	[W]	<2.5 (TS8, TS16), <3 (TS24), <0.8 (TS8/8 ES), <1.2 (TS16/8-12 ES)
Modules	[No.]	2 (TS8, TS16), 3 (TS24)
Cable section	[mm <sup>2</sup> -AWG]	2.5 - 14
Tightening torque	[Nm]	0.5
Protection degree		IP 20
Standards		IEC/EN 61558-2-8
Approvals		VDE EAC

# Technical Data Modular Transformers



TS100/12-24 C

TS-C							
		TS 10 C	TS 16 C	TS 25 C	TS 40 C	TS 63 C	TS 100 C
Primary rated voltage Un	[V]	230 a.c.	230 a.c.	230 a.c.	230 a.c.	230 a.c.	230 a.c.
Secondary rated voltage Un	[V]	12 - 24 V a.c.	12 - 24 V a.c.	12 - 24 V a.c.	12 - 24 V a.c.	12 - 24 V a.c.	12 - 24 V a.c.
Tolerance on secondary voltage (full load)	[%]	< +/- 5% (according to standards)					
Tolerance on secondary voltage (off load)	[%]	<100% rated secondary voltage (according to standards)					
Rated frequency	[Hz]	50/60	50/60	50/60	50/60	50/60	50/60
Rated power (continuous use)	[VA]	10	16	25	40	63	100
Maximum output current (at 24 V)	[A]	0.42	0.67	1.04	1.67	2.63	4.17
Power loss (off load)	[W]	< 2.5	< 3	< 4	< 4.5	< 4.5	< 1
Power loss (full load)	[W]	< 5	< 5	< 5	< 10	< 15	< 20
Modules	[No.]	2	3	4	4	5	6
Cable section	[mm <sup>2</sup> -AWG]	2.5					
Tightening torque	[Nm]	0.5					
Protection degree		IP 20					
Standards		IEC/EN 61558-2-6					
Approvals		EAC					
Temperature class resistance		B (corresponding to maximum 120°C)					

# Selection Tables

## Modular Transformers

	Bell transformers		Safety transformers
			
Series	TM	TS	TS-C
Reference standard	IEC EN 61558-2-8	IEC EN 61558-2-8	IEC EN 61558-2-6
Classification	Fail safe	Non-inherently short-circuit proof	Non-inherently short-circuit proof
Thermal protection integrated in secondary		■	■
Rated power	10, 15, 30, 40 VA	8, 16, 24 VA	10, 16, 25, 40, 63, 100 VA
Operation	Discontinuous	Discontinuous	Continuous
Primary circuit voltage ratings	230 V a.c.	230 V a.c.	230 V a.c.
Secondary circuit characteristics	Double insulation between primary and secondary windings	■	■
	Full power on all outputs		■
	SELV secondary (no-load output voltage <50 V a.c.)	■	■
Dimensions	2 modules [10 VA, 15 VA]	2 modules [8 VA, 16 VA]	2 modules [10 VA]
	3 modules [30 VA, 40 VA]	3 modules [24 VA]	3 modules [16 VA]
			4 modules [25 VA, 40 VA]
			5 modules [63 VA]
			6 modules [100 VA]

Application	Use	Type	Range	Secondary voltage	Rated power (VA)
Residential	Discontinuous	Fail-safe	TM	4-8-12 V, 12-24 V	10, 15, 30, 40
		Non-inherently short circuit proof	TS	8 V, 12 V, 24 V, 4-6-8 V, 4-8-12 V, 8-12 V, 8-12-24 V	8, 16, 24
Building and Industrial	Continuous	Non-inherently short circuit proof	TS-C	12-24 V	10, 16, 25, 40, 63, 100

# Ordering Data

## Modular Transformers



TM

Max rated power (disc.) VA	Secondary voltage range V a.c.	Bbn 8012542 EAN	Order details		Weight 1 piece kg	Pack unit pc.
			Type code	Order code		
10	4-8-12	287155	TM10/12	2CSM228715R0802	0.30	6
10	12-24	287254	TM10/24	2CSM228725R0802	0.30	6
15	4-8-12	287353	TM15/12	2CSM228735R0802	0.30	6
15	12-24	287452	TM15/24	2CSM228745R0802	0.30	6
15	4-8-12	285854	TM15/12 ES	2CSM228585R0802	0.30	1
30	4-8-12	287551	TM30/12	2CSM228755R0802	0.45	4
30	12-24	287650	TM30/24	2CSM228765R0802	0.45	4
40	4-8-12	287759	TM40/12	2CSM228775R0802	0.45	4
40	12-24	287858	TM40/24	2CSM228785R0802	0.45	4



TS

Max rated power (disc.) VA	Secondary voltage range V a.c.	Switch 0-1	Bbn 8012542 EAN	Order details		Weight 1 piece kg	Pack unit pc.
				Type code	Order code		
8	8		285953	TS8/8 ES	2CSM228595R0812	0.35	1
8	8		286653	TS8/8	2CSM228665R0812	0.35	6
8	12		286851	TS8/12	2CSM228685R0812	0.35	6
8	24		286752	TS8/24	2CSM228675R0812	0.35	6
8	8		368304	TS8/8 SW	2CSM081302R0811	0.35	6
8	12	■	368403	TS8/12 SW	2CSM081402R0811	0.35	6
8	4-6-8	■	368601	TS8/4-6-8 SW	2CSM081012R0811	0.35	6
8	4-8-12	■	368700	TS8/4-8-12 SW	2CSM081022R0811	0.35	6
16	8-12	■	286059	TS16/8-12 ES	2CSM228605R0812	0.35	1
16	8		286455	TS16/8	2CSM228645R0812	0.35	6
16	12		286356	TS16/12	2CSM228635R0812	0.35	6
16	24		286158	TS16/24	2CSM228615R0812	0.35	6
16	4-6-8		286554	TS16/4-6-8	2CSM228655R0812	0.35	6
16	4-8-12		286257	TS16/4-8-12	2CSM228625R0812	0.35	6
24	4-8-12		287056	TS24/4-8-12	2CSM228705R0812	0.45	4
24	8-12-24		286950	TS24/8-12-24	2CSM228695R0812	0.45	4



TS-C

Rated power (cont.) VA	Secondary rated voltage V a.c.	Bbn 8012542 EAN	Order details		Weight 1 piece kg	Pack unit pc.
			Type code	Order code		
10	12-24	285557	TS 10/12-24 C	2CSM228555R0812	0.35	1
16	12-24	285656	TS 16/12-24 C	2CSM228565R0812	0.45	1
25	12-24	928508	TS 25/12-24 C	2CSM251043R0811	0.92	1
40	12-24	928607	TS 40/12-24 C	2CSM401043R0811	1.1	1
63	12-24	928706	TS 63/12-24 C	2CSM631043R0811	1.15	1
100	12-24	285755	TS 100/12-24 C	2CSM228575R0812	1.45	1



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