



**Trasformatore di tensione per reti bassa tensione
Misura e Protezione**

Trasformatore monofase di tensione
INSERZIONE FASE-FASE
Tensione primaria: 100...690V
Tensione secondaria: 100V
Prestazione nominale:
10VA (cl.0,5) – 15VA(cl.1) – 30VA(cl.3P)
INSERZIONE FASE-NEUTRO
Tensione primaria: 100:√3...690:√3V
Tensione secondaria: 100:√3V
Prestazione nominale:
5VA (cl.0,5) – 7VA(cl.1) – 15VA(cl.3P)

**Voltage transformer for low-voltage network
Measure and Protection**

Single-phase voltage transformer
PHASE-PHASE CONNECTION
Primary voltage: 100...690V
Secondary voltage: 100V
Rated burden:
10VA (cl.0,5) – 15VA(cl.1) – 30VA(cl.3P)
PHASE-NEUTRAL CONNECTION
Primary voltage: 100:√3...690:√3V
Secondary voltage: 100:√3V
Rated burden:
5VA (cl.0,5) – 7VA(cl.1) – 15VA(cl.3P)



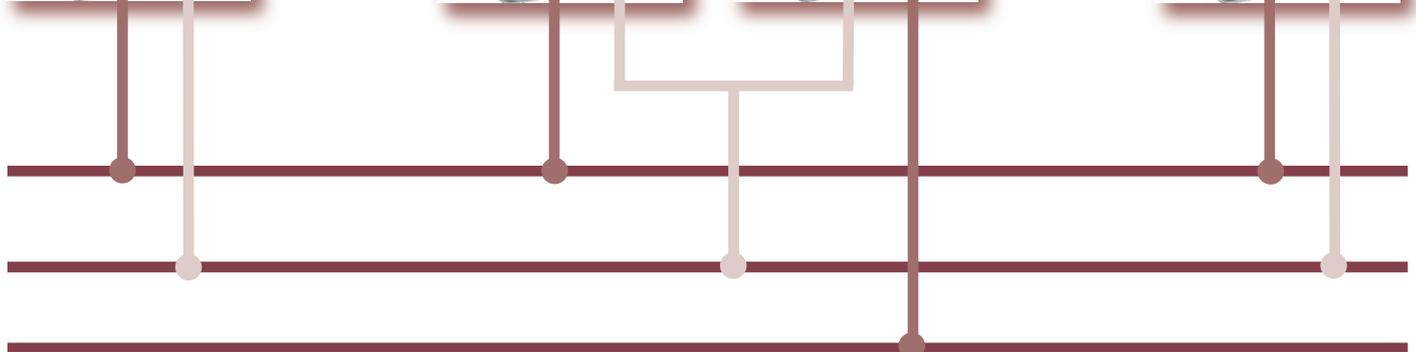
**Indicatori
Meters**



**Multifunzione Contatori
Multifunction Static energy meters**



**Relè
Relays**



CODICE ORDINAZIONE / ORDER CODE		Tensione primaria Primary voltage	CL. 0,5	CL. 1	CL. 3P
Secondario / Secondary					
100V	100: $\sqrt{3}V$	V	VA	VA	VA
TVVCC100C100		100	10	15	30
TVVCC110C100		110	10	15	30
TVVCC115C100		115	10	15	30
TVVCC230C100		230	10	15	30
TVVCC240C100		240	10	15	30
TVVCC400C100		400	10	15	30
TVVCC440C100		440	10	15	30
TVVCC450C100		450	10	15	30
TVVCC500C100		500	10	15	30
TVVCC600C100		600	10	15	30
TVVCC660C100		660	10	15	30
TVVCC690C100		690	10	15	30
	TVVCG100G100	100: $\sqrt{3}V$	5	7	15
	TVVCG110G100	110: $\sqrt{3}V$	5	7	15
	TVVCG115G100	115: $\sqrt{3}V$	5	7	15
	TVVCG230G100	230: $\sqrt{3}V$	5	7	15
	TVVCG240G100	240: $\sqrt{3}V$	5	7	15
	TVVCG400G100	400: $\sqrt{3}V$	5	7	15
	TVVCG440G100	440: $\sqrt{3}V$	5	7	15
	TVVCG450G100	450: $\sqrt{3}V$	5	7	15
	TVVCG500G100	500: $\sqrt{3}V$	5	7	15
	TVVCG600G100	600: $\sqrt{3}V$	5	7	15
	TVVCG660G100	660: $\sqrt{3}V$	5	7	15
	TVVCG690G100	690: $\sqrt{3}V$	5	7	15
ATVCOP01	* Coprimorsetti sigillabili primario / secondario - Primary / secondary sealable terminal cover				

NORME DI RIFERIMENTO

EN/IEC61869-1, EN/IEC61869-3

CARATTERISTICHE TECNICHE

INSERIZIONE FASE-FASE

Tensione nominale primaria U_{pr} : 100...690V

Tensione nominale secondaria U_{sr} : 100V

INSERIZIONE FASE-NEUTRO

Tensione nominale primaria U_{pr} : 100: $\sqrt{3}$...690: $\sqrt{3}V$

Tensione nominale secondaria U_{sr} : 100: $\sqrt{3}V$

Frequenza nominale: 50Hz

Frequenza di funzionamento: 47...63Hz

Opzione: frequenza nominale 400Hz (prestazioni da definire)

Prestazione nominale: vedi tabella

Classe di precisione: cl. 0,5 - 1 (misura) - 3P (protezione)

FATTORE DI TENSIONE NOMINALE (tensione per prova riscaldamento)

Durata nominale continua: $1,2U_{pr}$

Durata nominale 8 ore: $1,9U_{pr}$ (inserzione fase-neutro e primario $U_{pr}:\sqrt{3}$)

Massima potenza dissipata¹: $\leq 8,5W$

¹Per il dimensionamento termico dei quadri

PRESCRIZIONI RELATIVE ALL'ISOLAMENTO

Trasformatore a secco, isolamento in aria

Classe di isolamento (EN/IEC61869-1): B

REFERENCE STANDARDS

EN/IEC61869-1, EN/IEC61869-3

SPECIFICATIONS

PHASE-PHASE CONNECTION

Rated primary voltage U_{pr} : 100...690V

Rated secondary voltage U_{sr} : 100V

PHASE-NEUTRAL CONNECTION

Rated primary voltage U_{pr} : 100: $\sqrt{3}$...690: $\sqrt{3}V$

Rated secondary voltage U_{sr} : 100: $\sqrt{3}V$

Rated frequency: 50Hz

Working frequency: 47...63Hz

Option: rated frequency 400Hz (burdens to the advised)

Rated burden: see table

Accuracy class: cl. 0,5 - 1 (measuring) - 3P (protective)

RATED VOLTAGE FACTOR (for voltage heating test)

Continuous rated time: $1,2U_{pr}$

8 hours rated time: $1,9U_{pr}$ (phase-neutral and primary $U_{pr}:\sqrt{3}$ connection)

Max. power dissipation¹: $\leq 8,5W$

¹For switchboard thermal calculation

INSULATION REQUIREMENTS

Dry transformer, air insulation

Class of insulation (EN/IEC61869-1): B

Tensione nominale primaria U_{pn} Rated primary voltage U_{pn}	$\leq 600V$	$> 600V$
Tensione massima di riferimento per l'isolamento U_m Highest voltage for equipment U_m	0,72kV valore efficace / r.m.s.	1,2kV valore efficace / r.m.s.
Livello di isolamento nominale Rated insulation level	3kV valore efficace / r.m.s. 50Hz / 1min	6kV valore efficace / r.m.s. 50Hz / 1min

CONDIZIONI AMBIENTALI

Installazione in situazione non esposta (EN/IEC61869-1)

Temperatura di riferimento: 23°C ± 1°C

Temperatura di impiego: -25...50°C

Temperatura media giornaliera: ≤ 30°C

Temperatura di magazzinaggio: -40...85°C

Umidità relativa: ≤ 85%

Adatto all'utilizzo in clima tropicale

LIMITI DELL'ERRORE DI TENSIONE E DELL'ERRORE D'ANGOLO

(EN/IEC61869-3)

Classe di precisione Accuracy class	Errore di tensione (rapporto) in percentuale ± Percentage voltage (ratio) error ±
	80...120%Un
0,5	0,5
1	1,0

L'errore di tensione e l'errore d'angolo a frequenza nominale non devono superare i valori indicati in tabella, ad ogni tensione compresa tra l'80% e il 120% della tensione nominale e con prestazione compresa tra il 0% e il 100% della prestazione nominale (per TV con prestazione < 10VA) o tra il 25% e il 100% della prestazione nominale (per TV con prestazione ≥ 10VA) a fattore di potenza di 0,8 in ritardo.

Classe di precisione Accuracy class	Errore di tensione (rapporto) in percentuale ± Percentage voltage (ratio) error ±
	*5...100%Un x Ft
3P	3,0

* Il fattore di tensione nominale (Ft), a seconda dell'inserzione del TV (fase - fase o fase - neutro), è pari a 1,2 o 1,9 volte la tensione nominale (Upn).

L'errore di tensione e l'errore d'angolo a frequenza nominale non devono superare i valori indicati in tabella, al 5% della tensione nominale e alla tensione nominale moltiplicata per il fattore di tensione nominale (1,2 o 1,9) con prestazioni comprese tra il 25% e il 100% della prestazione nominale con fattore di potenza di 0,8 in ritardo.

Al 2% della tensione nominale, i limiti di errore di tensione e d'angolo con prestazione compresa tra il 25% e il 100% della prestazione nominale con fattore di potenza di 0,8 in ritardo sono due volte più alti di quelli dati in tabella.

CUSTODIA

Materiale custodia: metallo

Grado di protezione (EN/IEC 60529): IP00 morsetti (IP20 con coprimeretto)

Fissaggio a vite per montaggio a parete

Peso: 3,1 kg

CONNESSIONI

Morsetti a vite M4 e faston 6,3x0,8mm

SIGLATURA CONNESSIONI

Primario: A - B (fase-fase) / A - N (fase-neutro)

Secondario: a - b (fase-fase) / a - n (fase-neutro)

ENVIRONMENTAL CONDITIONS

Non-exposed installation (EN/IEC61869-1)

Reference temperature: 23°C ± 1°C

Nominal temperature range: -25...50°C

Daily mean temperature: ≤ 30°C

Limit temperature range for storage: -40...85°C

Relative humidity: ≤ 85%

Suitable for tropical climates

LIMITS OF VOLTAGE ERROR AND PHASE DISPLACEMENT

(EN/IEC61869-3)

Errore d'angolo ± / Phase displacement ±	
Minuti Minutes	Centiradiani Centiradians
80...120%Un	80...120%Un
20	0,6
40	1,2

The voltage error and phase displacement at rated frequency shall not exceed the values given in table, at any voltage between 80% and 120% of rated voltage and with burdens of between 0% and 100% of rated burden (VT with burden < 10VA) or 25% and 100% of rated burden (VT with burden ≥ 10VA) at a power factor of 0,8 lagging.

Errore d'angolo ± / Phase displacement ±	
Minuti Minutes	Centiradiani Centiradians
*5...100%Un x Ft	*5...100%Un x Ft
120	3,5

* Depending on the voltage transformer connection (phase - phase or phase - neutral), the rated voltage factor (Ft) corresponds to 1,2 or 1,9 times the rated voltage (Upn).

The voltage error and phase displacement at rated frequency shall not exceed the values in table at 5% rated voltage and at rated voltage multiplied by the rated voltage factor (1,2 or 1,9) with burdens of between 25% and 100% of rated burden at a power factor of 0,8 lagging.

At 2% of rated voltage, the limits of error and phase displacement with burdens of between 25% and 100% of rated burden at a power factor of 0,8 lagging will be twice as high as those given in table.

HOUSING

Housing material: metal

Protection degree (EN/IEC 60529): IP00 terminals (IP20 with terminal cover)

Fixing screw facility for wall mounting

Weight: 3,1kg

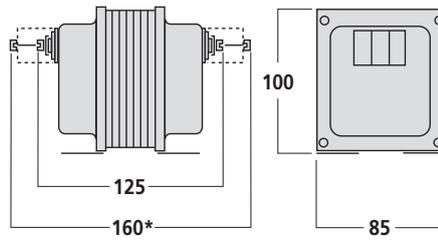
CONNECTIONS

Screw terminals M4 and fast-ons 6,3x0,8mm

CONNECTIONS LABEL

Primary: A - B (phase-phase) / A - N (phase-neutral)

Secondary: a - b (phase-phase) / a - n (phase-neutral)



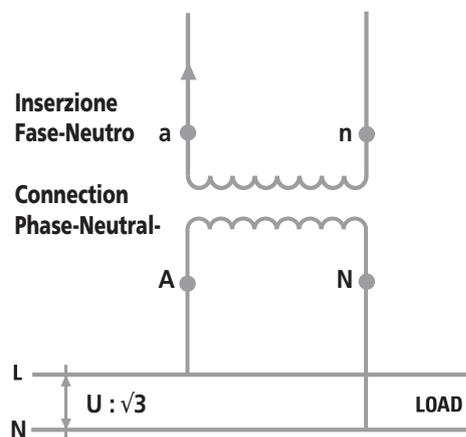
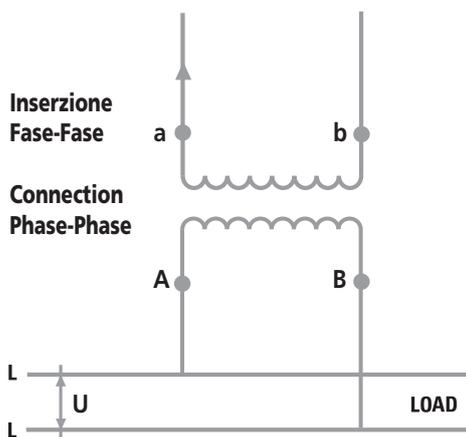
NOTA: è possibile realizzare trasformatori con più ingressi primari e/o uscite secondarie.

Caratteristiche tecniche (precisione, prestazioni, isolamento, ecc.) e dimensioni: da definire.

NOTE: it is possible to manufacture transformers with various primary inputs and/or secondary outputs.

Dimensional and technical specifications (accuracy, rated burden, insulation, etc): to be specified.

SCHEMA D'INSERZIONE WIRING DIAGRAM





**Transformateur de
Tension pour réseau
basse tension
Mesure et Protection**

Transformateur de tension monophasé
RACCORDEMENT PHASE - PHASE
Tension primaire: 100...690V
Tension secondaire: 100V
Prestation nominale:
10VA (cl.0,5) – 15VA(cl.1) – 30VA(cl.3P)
RACCORDEMENT PHASE-NEUTRE
Tension primaire: 100: $\sqrt{3}$...690: $\sqrt{3}$ V
Tension secondaire: 100: $\sqrt{3}$ V
Prestation nominale:
5VA (cl.0,5) – 7VA(cl.1) – 15VA(cl.3P)

**Voltage transformer
for low-voltage
network
Measure and Protection**

Single-phase voltage transformer
PHASE-PHASE CONNECTION
Primary voltage: 100...690V
Secondary voltage: 100V
Rated burden:
10VA (cl.0,5) – 15VA(cl.1) – 30VA(cl.3P)
PHASE-NEUTRAL CONNECTION
Primary voltage: 100: $\sqrt{3}$...690: $\sqrt{3}$ V
Secondary voltage: 100: $\sqrt{3}$ V
Rated burden:
5VA (cl.0,5) – 7VA(cl.1) – 15VA(cl.3P)

BTV10



**Indicateurs
Meters**

**Centrales de mesure
Multifunction**

**Compteurs d'énergie
Static energy meters**

**Relais
Relays**



REFERENCE / ORDER CODE		Tension primaire Primary voltage	CL. 0,5	CL. 1	CL. 3P
Secondaire / Secondary					
100V	100: √3V	V	VA	VA	VA
3013 1010		100	10	15	30
3013 1011		110	10	15	30
3013 1012		115	10	15	30
3013 1020		230	10	15	30
3013 1022		240	10	15	30
3013 1030		400	10	15	30
3013 1040		440	10	15	30
3013 1045		450	10	15	30
3013 1050		500	10	15	30
		600	10	15	30
		660	10	15	30
		690	10	15	30
	3013 1073	100: √3V	5	7	15
	3013 1074	110: √3V	5	7	15
	3013 1075	115: √3V	5	7	15
	3013 1077	230: √3V	5	7	15
	3013 1078	240: √3V	5	7	15
	3013 1080	400: √3V	5	7	15
	3013 1081	440: √3V	5	7	15
	3013 1082	450: √3V	5	7	15
	3013 1083	500: √3V	5	7	15
	3013 1084	600: √3V	5	7	15
		660: √3V	5	7	15
		690: √3V	5	7	15
3020 0011	Cache-bornes primaires / secondaires plombable - Primary / secondary sealable terminal cover				

NORME DE REFERENCE

EN/IEC61869-1, EN/IEC61869-3

CARACTERISTIQUES TECHNIQUES

RACCORDEMENT PHASE-PHASE

Tension nominale primaire U_{pr} : 100...690V

Tension nominale secondaire U_{sr} : 100V

RACCORDEMENT PHASE-NEUTRE

Tension nominale primaire U_{pr} : 100:√3...690:√3V

Tension nominale secondaire U_{sr} : 100:√3V

Fréquence nominale: 50Hz

Fréquence de fonctionnement: 47...63Hz

Option: fréquence nominale 400Hz (prestations à définir)

Prestation nominale: voir tableau

Classe de précision: 0,5 – 1 (mesure) – 3P (protection)

FACTEUR DE TENSION NOMINALE (pour test d'échauffement)

Durée nominale continue: $1,2U_{pr}$

Durée nominale 8 heures: $1,9U_{pr}$ (raccordement phase-neutre et primaire $U_{pr} \sqrt{3}$)

Puissance max. dissipée²: ≤ 8,5W

²Pour le dimensionnement thermique du coffret

PRESCRIPTIONS RELATIVES À L'ISOLEMENT

Transformateur sec, isolé dans l'air

Classe de l'isolement (EN/IEC 61869-1): B

REFERENCE STANDARDS

EN/IEC61869-1, EN/IEC61869-3

SPECIFICATIONS

PHASE-PHASE CONNECTION

Rated primary voltage U_{pr} : 100...690V

Rated secondary voltage U_{sr} : 100V

PHASE-NEUTRAL CONNECTION

Rated primary voltage U_{pr} : 100:√3...690:√3V

Rated secondary voltage U_{sr} : 100:√3V

Rated frequency: 50Hz

Working frequency: 47...63Hz

Option: rated frequency 400Hz (burdens to the advised)

Rated burden: see table

Accuracy class: 0,5 – 1 (measuring) – 3P (protective)

RATED VOLTAGE FACTOR (for voltage heating test)

Continuous rated time: $1,2U_{pr}$

8 hours rated time: $1,9U_{pr}$ (phase-neutral and primary $U_{pr} \sqrt{3}$ connection)

Max. power dissipation²: ≤ 8,5W

²For switchboard thermal calculation

INSULATION REQUIREMENTS

Dry transformer, air insulation

Class of insulation (EN/IEC 61869-1): B

Tension nominale primaire U_{pn} Rated primary voltage U_{pn}	≤ 600V	> 600V
Tension max. de référence pour l'isolement U_m Highest voltage for equipment U_m	0,72kV valeur efficace / r.m.s.	1,2kV valeur efficace / r.m.s.
Niveau de l'isolement nominal Rated insulation level	3kV valeur efficace / r.m.s. 50Hz / 1min	6kV valeur efficace / r.m.s. 50Hz / 1min

CONDITIONS D'UTILISATION

Installation non exposée (EN/IEC61869-1)

Température de référence: 23°C ± 1°C

Température d'utilisation: -25...50°C

Température moyenne journalière: ≤ 30°C

Température de stockage: -40...85°C

Humidité relative: ≤ 85%

Adapté pour l'utilisation en climat tropical

ENVIRONMENTAL CONDITIONS

Non-exposed installation (EN/IEC61869-1)

Reference temperature: 23°C ± 1°C

Nominal temperature range: -25...50°C

Daily mean temperature: ≤ 30°C

Limit temperature range for storage: -40...85°C

Relative humidity: ≤ 85%

Suitable for tropical climates

ERREURS DE COURANT ET DEPLACEMENT DE PHASE

((EN/IEC61869-3))

Classe de précision Accuracy class	Erreur de tension (rapport) en pourcentage Percentage voltage (ratio) error ±	Déplacement de phase Phase displacement ±	
		Minutes Minutes	Centiradians Centiradians
	80...120%Un	80...120%Un	80...120%Un
0,5	0,5	20	0,6
1	1,0	40	1,2

L'erreur de tension à la fréquence nominale ne doit pas dépasser les valeurs indiquées dans le tableau. Toute tension comprise entre 80% et 120% de la tension nominale et avec des prestations comprises entre 0% et 100% de la prestation nominale (TT avec prestation <10VA) ou 25% et 100% de la prestation nominale (TT avec prestation ≥ 10VA) à un facteur de puissance de 0,8 en retard.

The voltage error and phase displacement at rated frequency shall not exceed the values given in table, at any voltage between 80% and 120% of rated voltage and with burdens of between 0% and 100% of rated burden (VT with burden <10VA) or 25% and 100% of rated burden (VT with burden ≥ 10VA) at a power factor of 0,8 lagging.

Classe de précision Accuracy class	Erreur de tension (rapport) en pourcentage Percentage voltage (ratio) error ±	Déplacement de phase Phase displacement ±	
		Minutes Minutes	Centiradians Centiradians
	*5...100% Un x Ft	*5...100% Un x Ft	*5...100% Un x Ft
3P	3,0	120	3,5

*en fonction du raccordement du transformateur de tension, le facteur de tension nominale (Ft) correspond à 1,2 ou 1,9 fois la tension nominale (Un).

L'erreur de tension à la fréquence nominale ne doit pas dépasser les valeurs indiquées dans le tableau, à 5% de la tension nominale et à une tension nominale multipliée par le facteur de tension (1,2 ou 1,9) avec des prestations comprises entre 25% et 100% de la prestation nominale à un facteur de puissance de 0,8 en retard.

À 2% de la tension nominale, les limites d'erreurs avec des prestations comprises entre 25% et 100% de la prestation nominale à un facteur de puissance de 0,8 en retard seront deux fois plus élevées que celles indiquées dans le tableau.

*Depending on the voltage transformer connection (phase - phase or phase - neutral), the rated voltage factor (Ft) corresponds to 1,2 or 1,9 times the rated voltage (Un).

The voltage error and phase displacement at rated frequency shall not exceed the values in table at 5% rated voltage and at rated voltage multiplied by the rated voltage factor (1,2 or 1,9) with burdens of between 25% and 100% of rated burden at a power factor of 0,8 lagging.

At 2% of rated voltage, the limits of error and phase displacement with burdens of between 25% and 100% of rated burden at a power factor of 0,8 lagging will be twice as high as those given in table.

BOITIER

Matériau du boîtier: métal

Degré de protection (EN/IEC 60529): IP00 bornes (IP20 avec cache borne)

Facilité de fixation pour montage en saillie

Poids: 3,1 kg

HOUSING

Housing material: metal

Protection degree (EN/IEC 60529): IP00 terminals (IP20 with terminal cover)

Fixing screw facility for wall mounting

Weight: 3,1kg

RACCORDEMENT

Primaire - secondaire : par vis M4 et faston 6,3 x 0,8mm

ETIQUETTES DE RACCORDEMENT

Primaire: A - B (phase-phase) / A - N (phase-neutre)

Secondaire: a - b (phase-phase) / a - n (phase-neutre)

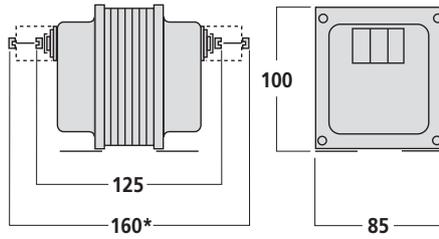
CONNECTIONS

Screw terminals M4 and fast-ons 6,3x0,8mm

CONNECTIONS LABEL

Primary: A - B (phase-phase) / A - N (phase-neutral)

Secondary: a - b (phase-phase) / a - n (phase-neutral)



NOTE: il est possible de fabriquer des transformateurs avec diverses entrées primaires et / ou sorties secondaires.
 Dimensions et spécifications techniques (précision, prestation, isolement, etc): à préciser.

NOTE: it is possible to manufacture transformers with various primary inputs and/or secondary outputs.
 Dimensional and technical specifications (accuracy, rated burden, insulation, etc): to be specified.

SCHEMA DE RACCORDEMENT WIRING DIAGRAM

