



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

Trasformatore monofase di tensione
INSERZIONE FASE-FASE
Tensione primaria: 100...1.000V
Tensione secondaria: 100V
Prestazione nominale:
100VA (cl.0,5) – 150VA(cl.1) – 200VA(cl.3P)
INSERZIONE FASE-NEUTRO
Tensione primaria: 100:√3...1.000:√3V
Tensione secondaria: 100:√3V
Prestazione nominale:
50VA (cl.0,5) – 75VA(cl.1) – 100VA(cl.3P)

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

Single-phase voltage transformer
PHASE-PHASE CONNECTION
Primary voltage: 100...1.000V
Secondary voltage: 100V
Rated burden:
100VA (cl.0,5) – 150VA(cl.1) – 200VA(cl.3P)
PHASE-NEUTRAL CONNECTION
Primary voltage: 100:√3...1.000:√3V
Secondary voltage: 100:√3V
Rated burden:
50VA (cl.0,5) – 75VA(cl.1) – 100VA(cl.3P)



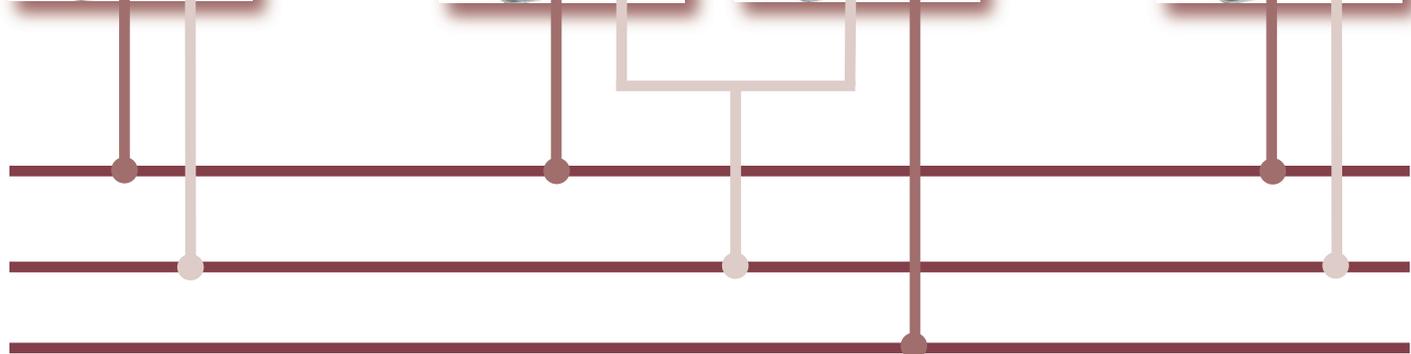
**Indicatori
Meters**



**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
TVVFC100C100		100	100	150	200
TVVFC110C100		110	100	150	200
TVVFC115C100		115	100	150	200
TVVFC230C100		230	100	150	200
TVVFC240C100		240	100	150	200
TVVFC400C100		400	100	150	200
TVVFC440C100		440	100	150	200
TVVFC450C100		450	100	150	200
TVVFC500C100		500	100	150	200
TVVFC600C100		600	100	150	200
TVVFC660C100		660	100	150	200
TVVFC690C100		690	100	150	200
TVVFC700C100		700	100	150	200
TVVFC800C100		800	100	150	200
TVVFD100C100		1000	100	150	200
	TVVFG100G100	100: $\sqrt{3}V$	50	75	100
	TVVFG110G100	110: $\sqrt{3}V$	50	75	100
	TVVFG115G100	115: $\sqrt{3}V$	50	75	100
	TVVFG230G100	230: $\sqrt{3}V$	50	75	100
	TVVFG240G100	240: $\sqrt{3}V$	50	75	100
	TVVFG400G100	400: $\sqrt{3}V$	50	75	100
	TVVFG440G100	440: $\sqrt{3}V$	50	75	100
	TVVFG450G100	450: $\sqrt{3}V$	50	75	100
	TVVFG500G100	500: $\sqrt{3}V$	50	75	100
	TVVFG600G100	600: $\sqrt{3}V$	50	75	100
	TVVFG660G100	660: $\sqrt{3}V$	50	75	100
	TVVFG690G100	690: $\sqrt{3}V$	50	75	100
	TVVFG700G100	700: $\sqrt{3}V$	50	75	100
	TVVFG800G100	800: $\sqrt{3}V$	50	75	100
	TVVFG100G100	1000: $\sqrt{3}V$	50	75	100
ATVCOP1	* Coprimorsetti sigillabili primario / secondario - Primary / secondary sealable terminal cover				

NORME DI RIFERIMENTO

EN/IEC61869-1, EN/IEC61869-3

CARATTERISTICHE TECNICHE

INSERZIONE FASE-FASE

Tensione nominale primaria U_{pr} : 100...1.000V

Tensione nominale secondaria U_{sr} : 100V

INSERZIONE FASE-NEUTRO

Tensione nominale primaria U_{pr} : 100: $\sqrt{3}$...1.000: $\sqrt{3}V$

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: 1,2 U_{pr}

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

Massima potenza dissipata¹: $\leq 32W$

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...1.000V

Rated secondary voltage U_{sr} : 100V

PHASE-NEUTRAL CONNECTION

Rated primary voltage U_{pr} : 100: $\sqrt{3}$...1.000: $\sqrt{3}V$

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: 1,2 U_{pr}

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

Max. power dissipation¹: $\leq 32W$

¹For switchboard thermal calculation

INSULATION REQUIREMENTS

Dry transformer, air insulation

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

Tensione nominale primaria U_{pn} <i>Rated primary voltage U_{pn}</i>	$\leq 600V$	$> 600V$
Tensione massima di riferimento per l'isolamento U_m <i>Highest voltage for equipment U_m</i>	0,72kV valore efficace / r.m.s.	1,2kV valore efficace / r.m.s.
Livello di isolamento nominale <i>Rated insulation level</i>	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: $23^{\circ}C \pm 1^{\circ}C$

Temperatura di impiego: $-25...50^{\circ}C$

Temperatura media giornaliera: $\leq 30^{\circ}C$

Temperatura di magazzinaggio: $-40...85^{\circ}C$

Umidità relativa: $\leq 85\%$

Adatto all'utilizzo in clima tropicale

ENVIRONMENTAL CONDITIONS

Non-exposed installation (EN/IEC61869-1)

Reference temperature: $23^{\circ}C \pm 1^{\circ}C$

Nominal temperature range: $-25...50^{\circ}C$

Daily mean temperature: $\leq 30^{\circ}C$

Limit temperature range for storage: $-40...85^{\circ}C$

Relative humidity: $\leq 85\%$

Suitable for tropical climates

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

(EN/IEC61869-3)

LIMITS OF VOLTAGE ERROR AND PHASE DISPLACEMENT

(EN/IEC61869-3)

Classe di precisione <i>Accuracy class</i>	Errore di tensione (rapporto) in percentuale \pm <i>Percentage voltage (ratio) error \pm</i>
	80...120% U_n
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 $\geq 10VA$) a fattore di potenza di 0,8 in ritardo.

Errore d'angolo \pm / Phase displacement \pm	
Minuti <i>Minutes</i>	Centiradiani <i>Centiradians</i>
80...120% U_n	80...120% U_n
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 $\geq 10VA$) at a power factor of 0,8 lagging.

Classe di precisione <i>Accuracy class</i>	Errore di tensione (rapporto) in percentuale \pm <i>Percentage voltage (ratio) error \pm</i>
	*5...100% $U_n \times Ft$
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 (U_{pn}).

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.

Errore d'angolo \pm / Phase displacement \pm	
Minuti <i>Minutes</i>	Centiradiani <i>Centiradians</i>
*5...100% $U_n \times Ft$	*5...100% $U_n \times Ft$
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 (U_{pn}).

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.

CUSTODIA

Materiale custodia: metallo

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

Fissaggio a vite per montaggio a parete

Peso: 7,5 kg

HOUSING

Housing material: metal

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

Fixing screw facility for wall mounting

Weight: 7,5 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)

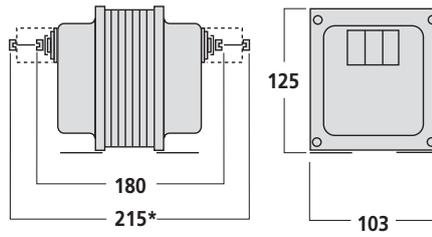
CONNECTIONS

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)



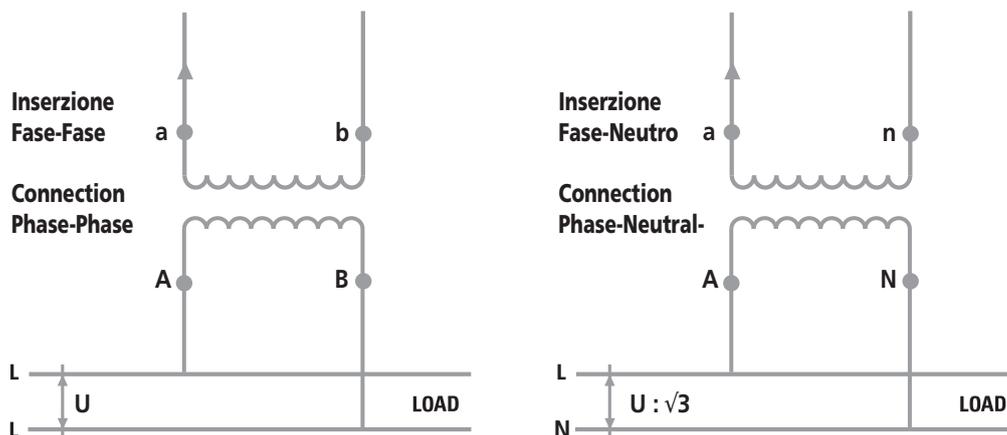
NOTA: è possibile realizzare trasformatori con più ingressi primari e/o uscite secondarie.

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'INSERIZIONE WIRING DIAGRAM





**Transformateurs
de tension pour réseau
basse tension
Mesure et protection**

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

BTV100



Transformateur de tension monophasé
RACCORDEMENT PHASE - PHASE
Tension primaire: 100...1.000V
Tension secondaire: 100V
Prestation nominale:
100VA (cl.0,5) – 150VA(cl.1) – 200VA(cl.3P)
RACCORDEMENT PHASE-NEUTRE
Tension primaire: 100:√3...1.000:√3V
Tension secondaire: 100:√3V
Prestation nominale:
50VA (cl.0,5) – 75VA(cl.1) – 100VA(cl.3P)

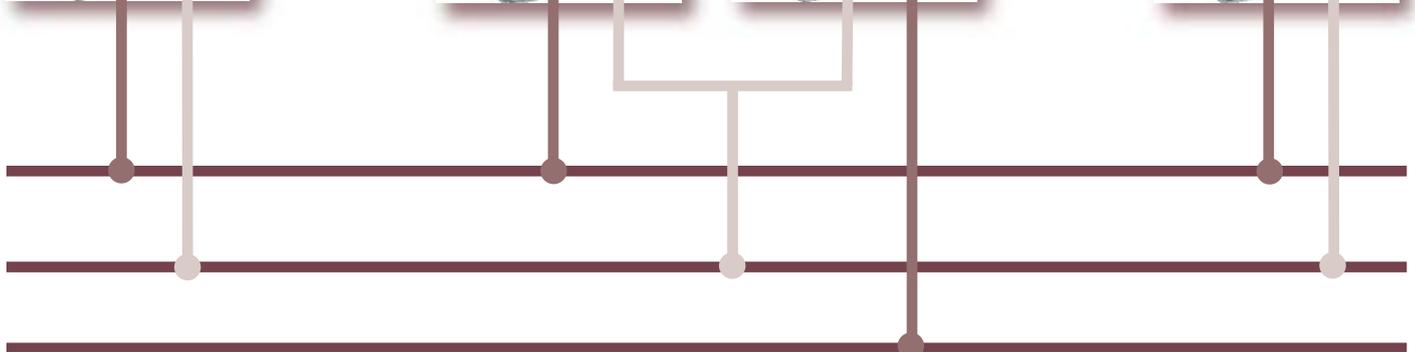
Single-phase voltage transformer
PHASE-PHASE CONNECTION
Primary voltage: 100...1.000V
Secondary voltage: 100V
Rated burden:
100VA (cl.0,5) – 150VA(cl.1) – 200VA(cl.3P)
PHASE-NEUTRAL CONNECTION
Primary voltage: 100:√3...1.000:√3V
Secondary voltage: 100:√3V
Rated burden:
50VA (cl.0,5) – 75VA(cl.1) – 100VA(cl.3P)

**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: $\sqrt{3}V$	V	VA	VA	VA
3013 9010		100	100	150	200
3020 9011		110	100	150	200
3013 9012		115	100	150	200
3013 9020		230	100	150	200
3020 9022		240	100	150	200
3020 9030		400	100	150	200
3013 9040		440	100	150	200
3020 9045		450	100	150	200
3013 9050		500	100	150	200
3020 9060		600	100	150	200
3013 9061		660	100	150	200
3020 9062		690	100	150	200
3013 9063		700	100	150	200
3020 9064		800	100	150	200
3013 9090		1.000	100	150	200
	3013 9100	100: $\sqrt{3}V$	50	75	100
	3013 9101	110: $\sqrt{3}V$	50	75	100
	3013 9102	115: $\sqrt{3}V$	50	75	100
	3013 9104	230: $\sqrt{3}V$	50	75	100
	3013 9105	240: $\sqrt{3}V$	50	75	100
	3013 9107	400: $\sqrt{3}V$	50	75	100
	3013 9108	440: $\sqrt{3}V$	50	75	100
	3013 9109	450: $\sqrt{3}V$	50	75	100
	3013 9110	500: $\sqrt{3}V$	50	75	100
	3013 9111	600: $\sqrt{3}V$	50	75	100
	3013 9112	660: $\sqrt{3}V$	50	75	100
	3013 9113	690: $\sqrt{3}V$	50	75	100
	3013 9114	700: $\sqrt{3}V$	50	75	100
	3013 9115	800: $\sqrt{3}V$	50	75	100
	3013 9116	1.000: $\sqrt{3}V$	50	75	100
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...1.000V

Tension nominale secondaire U_{sr} : 100V

RACCORDEMENT PHASE-NEUTRE

Tension nominale primaire U_{pr} : 100: $\sqrt{3}$...1.000: $\sqrt{3}V$

Tension nominale secondaire U_{sr} : 100: $\sqrt{3}V$

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: $\leq 32W$

²Pour le dimensionnement thermique du coffret

PRESCRIPTIONS RELATIVES À L'ISOLEMENT

Transformateur sec, isolé dans l'air

Classe de l'isolement (EN/IEC61869-1): B

REFERENCE STANDARDS

EN/IEC61869-1, EN/IEC61869-3

SPECIFICATIONS

PHASE-PHASE CONNECTION

Rated primary voltage U_{pr} : 100...1.000V

Rated secondary voltage U_{sr} : 100V

PHASE-NEUTRAL CONNECTION

Rated primary voltage U_{pr} : 100: $\sqrt{3}$...1.000: $\sqrt{3}V$

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: 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: $\leq 32W$

²For switchboard thermal calculation

INSULATION REQUIREMENTS

Dry transformer, air insulation

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

Tension nominale primaire U_{pn} <i>Rated primary voltage U_{pn}</i>	$\leq 600V$	$> 600V$
Tension max. de référence pour l'isolement U_m <i>Highest voltage for equipment U_m</i>	0,72kV valeur efficace / r.m.s.	12kV valeur efficace / r.m.s.
Niveau de l'isolement nominal <i>Rated insulation level</i>	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: $23^{\circ}C \pm 1^{\circ}C$

Température d'utilisation: $-25...50^{\circ}C$

Température moyenne journalière: $\leq 30^{\circ}C$

Température de stockage: $-40...85^{\circ}C$

Humidité relative: $\leq 85\%$

Adapté pour l'utilisation en climat tropical

LIMITE DES ERREURS DE COURANT ET DEPLACEMENT DE PHASE

(EN/IEC61869-3)

ENVIRONMENTAL CONDITIONS

Non-exposed installation (EN/IEC61869-1)

Reference temperature: $23^{\circ}C \pm 1^{\circ}C$

Nominal temperature range: $-25...50^{\circ}C$

Daily mean temperature: $\leq 30^{\circ}C$

Limit temperature range for storage: $-40...85^{\circ}C$

Relative humidity: $\leq 85\%$

Suitable for tropical climates

LIMITS OF VOLTAGE ERROR AND PHASE DISPLACEMENT

(EN/IEC61869-3)

Classe de précision <i>Accuracy class</i>	Erreur de tension (rapport) en pourcentage <i>Percentage voltage (ratio) error</i> \pm	Déplacement de phase <i>Phase displacement</i> \pm	
		Minutes <i>Minutes</i>	Centiradians <i>Centiradians</i>
	80...120% U_n	80...120% U_n	80...120% U_n
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 $\geq 10VA$) 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% or rated burden (VT with burden $\geq 10VA$) at a power factor of 0,8 lagging.

Classe de précision <i>Accuracy class</i>	Erreur de tension (rapport) en pourcentage <i>Percentage voltage (ratio) error</i> \pm	Déplacement de phase <i>Phase displacement</i> \pm	
		Minutes <i>Minutes</i>	Centiradians <i>Centiradians</i>
	*5...100% $U_n \times Ft$	*5...100% $U_n \times Ft$	*5...100% $U_n \times Ft$
3P	3,0	120	3,5

*en fonction du raccordement du transformateur de tension, le facteur de tension nominale (F_t) correspond à 1,2 ou 1,9 fois la tension nominale (U_{pn}). 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 (F_t) corresponds to 1,2 or 1,9 times the rated voltage (U_{pn}). 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: 7,5 kg

HOUSING

Housing material: metal

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

Fixing screw facility for wall mounting

Weight: 7,5 kg

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)

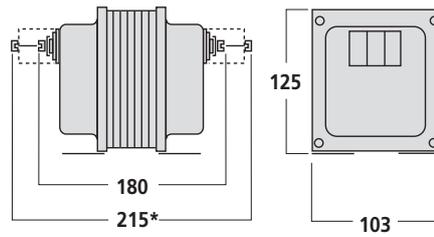
CONNECTIONS

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

