

**Trasduttore
di tensione alternata
2 Moduli**

**Alternating voltage
transducer
2 Module**

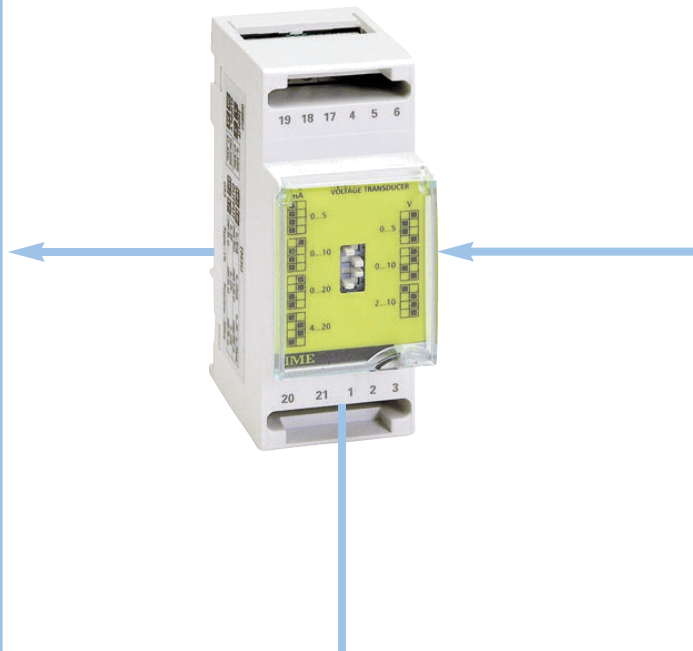
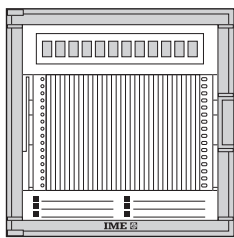
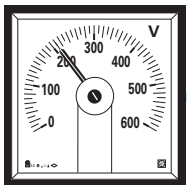
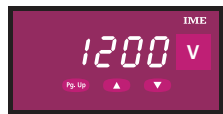
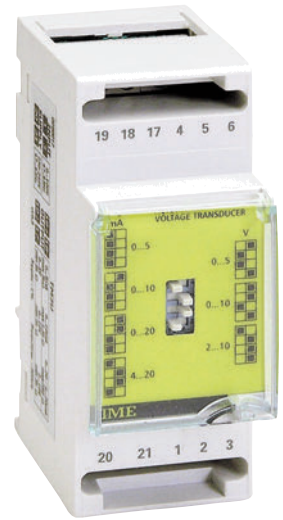
Tema U4e

Misura del vero valore efficace
Ingresso diretto fino a 500V
Uscita selezionabile in campo (7 portate)

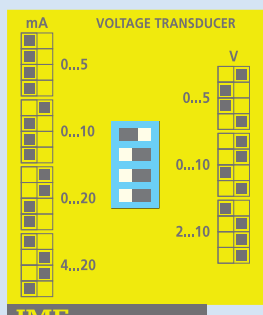
To measure TRUE RMS value
Direct input up to 500V
Output selectable on field (7 ranges)

Valori selezionabili:
0...5/10/20mA - 4...20mA
0...5/10V - 2...10V

Selectable values:
0...5/10/20mA - 4...20mA
0...5/10V - 2...10V



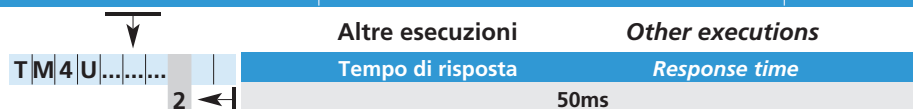
Uscita Output



0...5mA
0...10mA
0...20mA
4...20mA
0...5V
0...10V
2...10V

**Inserzione diretta o
su TV/100V o TV/110V**
Direct connection or
on VT/100V or VT/110V

CODICI DI ORDINAZIONE ORDERING CODE	INGRESSO INPUT	AL. AUSILIARIA AUX. SUPPLY
TM4U210	100V	115V ca / ac
TM4U220	110V	115V ca / ac
TM4U230	120V	115V ca / ac
TM4U270	250V	115V ca / ac
TM4U290	400V	115V ca / ac
TM4U2A0	440V	115V ca / ac
TM4U2C0	500V	115V ca / ac
TM4U310	100V	230 - 240V ca / ac
TM4U320	110V	230 - 240V ca / ac
TM4U330	120V	230 - 240V ca / ac
TM4U370	250V	230 - 240V ca / ac
TM4U390	400V	230 - 240V ca / ac
TM4U3A0	440V	230 - 240V ca / ac
TM4U3C0	500V	230 - 240V ca / ac
TM4UH10	100V	20...150V cc / dc
TM4UH20	110V	20...150V cc / dc
TM4UH30	120V	20...150V cc / dc
TM4UH70	250V	20...150V cc / dc
TM4UH90	400V	20...150V cc / dc
TM4UHA0	440V	20...150V cc / dc
TM4UHC0	500V	20...150V cc / dc
TM4UL10	100V	150...250V cc / dc
TM4UL20	110V	150...250V cc / dc
TM4UL30	120V	150...250V cc / dc
TM4UL70	250V	150...250V cc / dc
TM4UL90	400V	150...250V cc / dc
TM4ULA0	440V	150...250V cc / dc
TM4ULC0	500V	150...250V cc / dc



INGRESSO

Tensione nominale Un: 100 - 110 - 120 - 250 - 400 - 440 - 500V

Altri valori a richiesta

Frequenza nominale fn: 50 - 400Hz

Eccedenza di breve durata (EN 60688): 2Un/1s (max 600V)

Autoconsumo: ≤ 0,5VA

CAMPI NOMINALI DI UTILIZZO

(EN 60688)

Frequenza: 47...63Hz (fn 50Hz)

Forma d'onda: sinusoidale distorta

INTERVALLO DI MISURA

Tensione: 0...120% Un

USCITA

Tipo: unidirezionale a zero reale, per carico d'uscita variabile

Precisione (EN 60688): classe 0,5

Tempo di risposta / Ondulazione (EN 60688): ≤ 100ms / ≤ 1% - ≤ 50ms / ≤ 4%

Valore nominale: selezionabile tramite dip switch (7 portate)

Valori nominali di corrente: 0...5 - 0...10 - 0...20mA - 4...20mA

Tensione disponibile: 15V

Carico di uscita: ≤ 750Ω (20mA) - ≤ 1,5kΩ (10mA) - ≤ 3kΩ (5mA)

INPUT

Voltage rating Un: 100 - 110 - 120 - 250 - 400 - 440 - 500V

Other values on request

Frequency rating fn: 50 - 400Hz

Excessive input of short duration (EN 60688): 2Un/1s (max 600V)

Rated burden: ≤ 0,5VA

NOMINAL RANGE OF USE

(EN 60688)

Frequency: 47...63Hz (fn 50Hz)

Waveform: sinusoidal distorted

MEASURING RANGE

Voltage: 0...120% Un

OUTPUT

Type: unidirectional, real or live zero for variable output load

Accuracy (EN 60688): class 0,5

Response time / Ripple content (EN 60688): ≤ 100ms / ≤ 1% - ≤ 50ms / ≤ 4%

Rated value: selectable by dip switch (7 ranges)

Current rated values: 0...5 - 0...10 - 0...20mA - 4...20mA

Compliance voltage: 15V

Output load: ≤ 750Ω (20mA) - ≤ 1,5kΩ(10mA) - ≤ 3kΩ (5mA)

Valori nominali di tensione: 0...5 - 0...10 - 2...10V

Carico di uscita: $\geq 5k\Omega$

ALIMENTAZIONE AUSILIARIA

Valore nominale U_{aux} ca: 48 - 115 - 230 e 240V

Altri valori a richiesta

Variazione ammessa: $0,9...1,1U_{aux} - 40...60V$ (U_{aux} 48V)

Frequenza nominale f_{aux} : 50Hz

Variazione ammessa: $47...63Hz$

Autoconsumo: $\leq 3VA$

Valore nominale U_{aux} cc: $20...150V_{cc} - 150...250V_{cc}$

Autoconsumo: $\leq 1,5W$

Protezione contro l'inversione di polarità

ISOLAMENTO

(EN 60439-1, EN61010-1)

Categoria di installazione: III

Grado di inquinamento: 2

Tensione di riferimento per l'isolamento: 600V

Prova di tensione a impulso $5kV$ $1,2/50\mu s$ $0,5J$

Circuiti considerati: ingresso, uscita, al. ausiliaria

Prova a tensione alternata $2,5kV$ valore efficace $50Hz/1min$

Circuiti considerati: ingresso, uscita, al. ausiliaria

Prova a tensione alternata $4kV$ valore efficace $50Hz/1min$

Circuiti considerati: tutti i circuiti e massa

COMPATIBILITA' ELETTROMAGNETICA

Prove di emissione in accordo con EN 50081-1, EN 55011

Prove di immunità in accordo con EN 50082-2

Prova di disturbo ad alta frequenza, onda oscillatoria smorzata $1MHz$ (IEC255-4)

Tensione di prova: $2,5kV$ modo comune, $1kV$ modo serie

CONDIZIONI AMBIENTALI

Gruppo di utilizzo: II

Temperatura di riferimento: $15...30^{\circ}C$

Temperatura di impiego: $0...45^{\circ}C$

Condizione limite di temperatura: $-10...55^{\circ}C$

Temperatura di magazzinaggio: $-25...70^{\circ}C$

Umidità relativa: fino a 75%

Adatto all'utilizzo in clima tropicale

Massima potenza dissipata¹: $\leq 2,6W$

¹Per il dimensionamento termico dei quadri

CUSTODIA

Dimensioni: 2 moduli DIN 43880

Connessioni: morsetti fissaggio a vite per conduttore fino a $4mm^2$

Montaggio: a incastro su profilato $35mm$

Tipo profilato: a cappello TH35-15 (EN60715)

Materiale custodia: makrolon autoestinguente

Grado di protezione (EN 60529): IP40 (frontale), IP20 (morsetti)

Peso: 200 grammi

Voltage rated values: 0...5 - 0...10 - 2...10V

Output load: $\geq 5k\Omega$

AUXILIARY SUPPLY

Rated value U_{aux} ac: 48 - 115 - 230 and 240V

Other value on request

Tolerance: $0,9...1,1U_{aux} - 40...60V$ (U_{aux} 48V)

Rated frequency f_{aux} : 50Hz

Tolerance: $47...63Hz$

Rated burden: $\leq 3VA$

Rated value U_{aux} dc: $20...150V_{dc} - 150...250V_{dc}$

Rated burden: $\leq 1,5W$

Protected against incorrect polarity

INSULATION

(EN 60439-1)

Installation category: III

Pollution degree: 2

Insulation reference voltage: 600V

Impulse voltage test $5kV$ $1,2/50ms$ $0,5J$

Considered circuits: input, output, aux. supply

A.C. voltage test $2,5kV$ r.m.s. $50Hz/1min$

Considered circuits: input, output, aux supply

A.C. voltage test $4kV$ r.m.s. $50Hz/1min$

Considered circuits: all circuits and earth

ELECTROMAGNETIC COMPATIBILITY

Emission tests according to EN 50081-1, EN 55011

Immunity tests according to EN 50082-2

High frequency disturbance test, $1MHz$ damped oscillatory wave (IEC255-4)

Test voltage: $2,5kV$ common mode, $1kV$ series mode

ENVIRONMENTAL CONDITIONS

Usage group: II

Reference temperature: $15...30^{\circ}C$

Nominal temperature range: $0...45^{\circ}C$

Limit temperature range: $-10...55^{\circ}C$

Limit temperature range for storage: $-25...70^{\circ}C$

Relative humidity: up to 75%

Suitable for tropical climates

Max. power dissipation¹: $\leq 2,6W$

¹For switchboard thermal calculation

HOUSING

Dimensions: 2 module DIN 43880

Connections: screw terminals for cable up to $4mm^2$

Mounting: snap-on $35mm$ rail

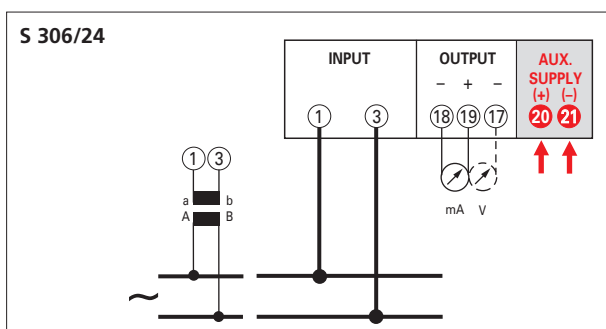
Rail type: top hat TH35-15 (EN60715)

Housing material: self-extinguishing makrolon

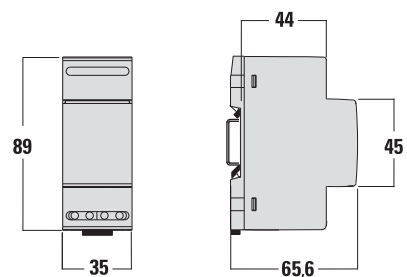
Protection degree (EN 60529): IP40 (front frame), IP20 (terminals)

Weight: 200 grams

SCHEMA D'INSERZIONE WIRING DIAGRAM



DIMENSIONI DIMENSIONS



**Transducteur
de tension alternative
2 Modules**

Mesure de la valeur efficace
Entrée directe jusqu'à 500V
Sortie sélectionnable (7 calibres)

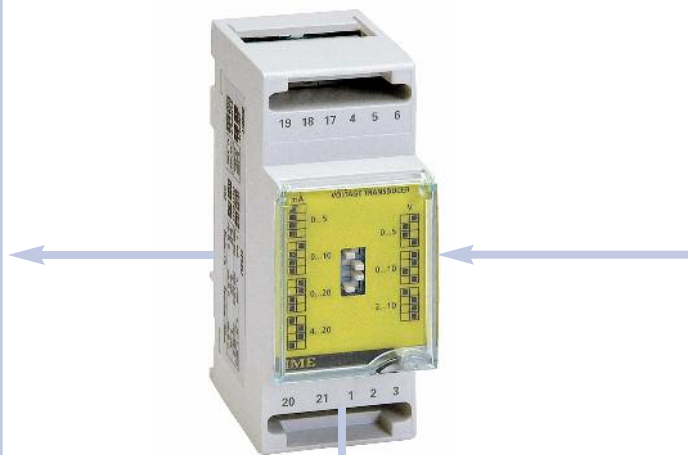
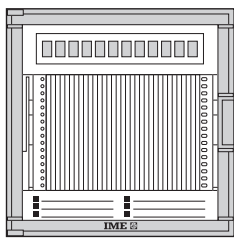
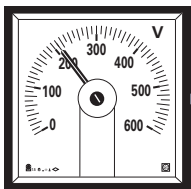
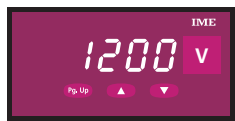
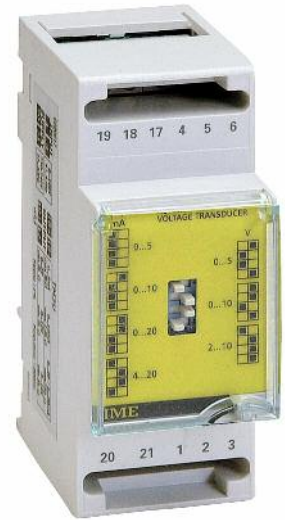
Valeurs sélectionnables:
0...5/10/20mA - 4...20mA
0...5/10V - 2...10V

**Alternating voltage
transducer
2 Module**

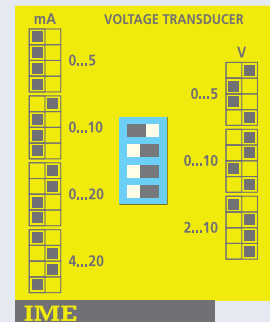
To measure *TRUE RMS* value
Direct input up to 500V
Output selectable on field (7 ranges)

Selectable values:
0...5/10/20mA - 4...20mA
0...5/10V - 2...10V

Tema TM4U







Sortie Output



- 0...5mA
- 0...10mA
- 0...20mA
- 4...20mA
- 0...5V
- 0...10V
- 2...10V

**Raccordement direct ou
sur TT/100V ou TT/110V**

*Direct connection or
on VT/100V or VT/110V*

REFERENCE ORDERING CODE	ENTREE INPUT	ALIM.AUX. AUX. SUPPLY
5026 4969	100V	115V ac
5026 4967	110V	115V ac
5026 4968	120V	115V ac
5026 4966	250V	115V ac
5026 4965	400V	115V ac
	440V	115V ac
5026 4964	500V	115V ac
5026 5069	100V	230 - 240V ac
5026 5067	110V	230 - 240V ac
5026 5068	120V	230 - 240V ac
5026 5066	250V	230 - 240V ac
5026 5065	400V	230 - 240V ac
	440V	230 - 240V ac
5026 5064	500V	230 - 240V ac
5026 4869	100V	20...150V dc
5026 4867	110V	20...150V dc
5026 4868	120V	20...150V dc
5026 4866	250V	20...150V dc
5026 4865	400V	20...150V dc
	440V	20...150V dc
5026 4864	500V	20...150V dc
5026 4769	100V	150...250V dc
5026 4767	110V	150...250V dc
5026 4768	120V	150...250V dc
5026 4766	250V	150...250V dc
5026 4765	400V	150...250V dc
	440V	150...250V dc
5026 4764	500V	150...250V dc

Autres exécutions

Other executions

Temps de réponse

Response time

50ms

ENTREE

Tension nominale Un: 100 - 110 - 120 - 250 - 400 - 500V

Autres valeurs sur demande

Fréquence nominale fn: 50 - 400Hz

Surcharge de brève durée (EN 60688): 2Un/1s (max 600V)

Autoconsommation : ≤ 0,5VA

INPUT

Voltage rating Un: 100 - 110 - 120 - 250 - 400 - 440 - 500V

Other values on request

Frequency rating fn: 50 - 400Hz

Excessive input of short duration (EN 60688): 2Un/1s (max 600V)

Rated burden: ≤ 0,5VA

DOMAINES D'UTILISATIONS

(EN 60688)

Fréquence: 47...63Hz (fn 50Hz)

Forme d'onde: sinusoïdale déformée

NOMINAL RANGE OF USE

(EN 60688)

Frequency: 47...63Hz (fn 50Hz)

Waveform: sinusoidal, distorted

ETENDUE DE MESURE

Tension: 0...120% Un

MEASURING RANGE

Voltage: 0...120% Un

SORTIE

Type: unidirectionnel à zéro normal, pour charge de sortie variable

Précision (EN 60688): classe 0,5

Temps de réponse - Ondulation (EN 60688): ≤100 ms / ≤1% - ≤ 50ms / ≤ 4%

Valeur nominale: Sélectionnable par dip-switch (7 calibres)

Valeurs nominales de courant: 0...5 - 0...10 - 0...20mA - 4...20mA

Tension disponible: 15V

Charge de sortie: ≤ 750Ω(20mA) - ≤ 1,5kΩ(10mA) - ≤ 3kΩ (5mA)

OUTPUT

Type: unidirectional, real or live zero for variable output load

Accuracy (EN 60688): class 0,5

Response time / Ripple content (EN 60688): ≤100ms / ≤ 1% - ≤ 50ms / ≤ 4%

Rated value: selectable by dip switch (7 ranges)

Current rated values: 0...5 - 0...10 - 0...20mA - 4...20mA

Compliance voltage: 15V

Output load: ≤ 750Ω (20mA) - ≤ 1,5kΩ(10mA) - ≤ 3kΩ(5mA)

Valeurs nominales de tension: 0...5 - 0...10 - 2...10V

Charge de sortie: $\geq 5k\Omega$

ALIMENTATION AUXILIAIRE

Valeur nominale Uaux: 48 - 115 - 230 et 240V

Autres valeurs sur demande

Variation admissible: 0,9...1,1Uaux - 40...60V (Uaux 48V)

Fréquence nominale faux: 50Hz

Variation admissible: 47...63Hz

Autoconsommation: $\leq 3VA$

Valeur nominale Uaux dc : 20...150Vdc - 150...250Vdc

Autoconsommation: $\leq 1,5W$

Protection contre l'inversion de polarité

ISOLEMENT

(EN 60439-1, EN61010-1)

Catégorie d'installation: III

Degré de pollution: 2

Tension de référence pour l'isolement : 600V

Tension d'essai 5kV impulsion normalisée 1,2/50µs 0,5J

Circuits concernés: entrée, sortie, alimentation auxiliaire

Tension d'essai 2,5kV valeur efficace 50Hz/1 min

Circuits concernés: entrée, sortie, alimentation auxiliaire

Tension d'essai 4kV valeur efficace 50Hz/1 min

Circuits concernés: tous les circuits et la masse

COMPATIBILITE ELECTROMAGNETIQUE

Essai d'émission selon EN 50081-1, EN 55011

Essai d'immunité selon EN 50082-2

Essai de distorsion à haute fréquence 1MHz, onde sinusoïdale (IEC255-4)

Tension d'essai: 2,5kV mode commun, 1kV mode série

CONDITION D'UTILISATION

Groupe d'utilisateur: II

Température de référence: 15...30°C

Température d'utilisation: 0...45°C

Température limite de fonctionnement: -10...55°C

Température de stockage: -25...70°C

Humidité relative: jusqu'à 75%

Adapté pour l'utilisation en climat tropical

Puissance max. dissipée¹: $\leq 2,6W$

¹Pour le dimensionnement thermique du coffre

BOITIER

Dimensions: 2 modules DIN 43880

Raccordement: par vis capacité maxi. fil rigide 4mm²

Fixation: rail 35mm

Type de profil: TH35-15 (EN60715)

Matériaux du boîtier: makrolon autoextinguible

Indice de protection (EN 60529): IP40 (face avant), IP20 (bornes)

Poids: 200 grammes

Voltage rated values: 0...5 - 0...10 - 2...10V

Output load: $\geq 5k\Omega$

AUXILIARY SUPPLY

Rated value Uaux ac: 48 - 115 - 230 and 240V

Other value on request

Tolerance: 0,9...1,1Uaux - 40...60V (Uaux 48V)

Rated frequency faux: 50Hz

Tolerance: 47...63Hz

Rated burden: $\leq 3VA$

Rated value Uaux dc: 20...150Vdc - 150...250Vdc

Rated burden: $\leq 1,5W$

Protected against incorrect polarity

INSULATION

(EN 60439-1)

Installation category: III

Pollution degree: 2

Insulation reference voltage: 600V

Impulse voltage test 5kV 1,2/50µs 0,5J

Considered circuits: input, output, aux. supply

A.C. voltage test 2,5kV r.m.s. 50Hz/1 min

Considered circuits: input, output, aux supply

A.C. voltage test 4kV r.m.s. 50Hz/1min

Considered circuits: all circuits and earth

ELECTROMAGNETIC COMPATIBILITY

Emission tests according to EN 50081-1, EN 55011

Immunity tests according to EN 50082-2

High frequency disturbance test, 1MHz damped oscillatory wave (IEC255-4)

Test voltage: 2,5kV common mode, 1kV series mode

ENVIRONMENTAL CONDITIONS

Usage group: II

Reference temperature: 15...30°C

Nominal temperature range: 0...45°C

Limit temperature range: -10...55°C

Limit temperature range for storage: -25...70°C

Relative humidity: up to 75%

Suitable for tropical climates

Max. power dissipation¹: $\leq 2,6W$

¹For switchboard thermal calculation

HOUSING

Dimensions: 2 module DIN 43880

Connections: screw terminals for cable up to 4mm²

Mounting: snap-on 35mm rail

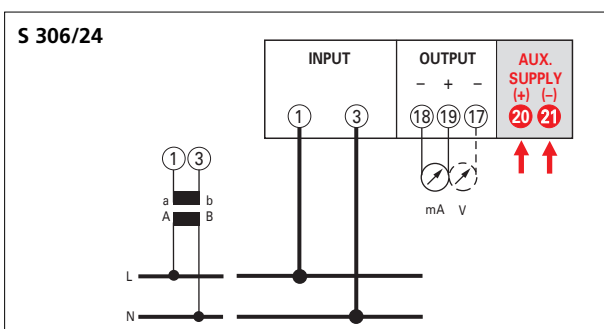
Rail type: top hat TH35-15 (EN60715)

Housing material: self-extinguishing makrolon

Protection degree (EN 60529): IP40 (front frame), IP20 (terminals)

Weight: 200 grams

SCHEMA DE RACCORDEMENT WIRING DIAGRAM



DIMENSIONS DIMENSIONS

