



**Indicatori Analogici
RQ - AQ
48x48mm
72x72mm
96x96mm**

**Analog Meters
RQ - AQ
48x48mm
72x72mm
96x96mm**

AN

Indicatori analogici di potenza
con accessorio separato
Misura di potenza attiva o reattiva,
monofase o trifase
Lettura diretta della potenza, lato primario
Inserzione tensione diretta fino a 440V o da TV
esterno /100V o /110V
Ingresso corrente da TA esterno /5A o /1A

Analog power meters with separate accessory
Single-phase or three-phase, active or reactive
power measuring
Direct power reading, primary side
Direct voltage connection up to 440V or by
external VT/100V or /110V
Current input by external CT /5A or /1A



INDICATORE ANALOGICO**ANALOG METER**

CODICI DI ODINAZIONE

ORDERING CODE

MODELLO MODEL	RQ48M	RQ72M	RQ96M	AQ48M	AQ72M	AQ96M
Ampiezza scala Scale length	90°			240°		
Dimensione Dimensions	48 x 48	72 x 72	96 x 96	48 x 48	72 x 72	96 x 96
0...1mA Zero laterale Lateral zero	AN132A1001	AN232A1001	AN332A1001	AN532A1001	AN632A1001	AN732A1001
1...0...1mA Zero centrale Central zero	AN133A1001	AN233A1001	AN333A1001	AN533A1001	AN633A1001	AN733A1001
- x...0...1mA Zero spostato Displaced zero	AN13SA1001	AN23SA1001	AN33SA1001	AN53SA1001	AN63SA1001	AN73SA1001

ACCESSORIO**ACCESSORY**

CODICI DI ODINAZIONE

ORDERING CODE

Modello / Model		Tesi P potenza attiva / active power				
Linea Network		Monofase Single-phase	Trifase 3 fili / Three-phase 3 wire		Trifase 4 fili / Three-phase 4 wire	
			Carico equilibrato Balanced load	Carico squilibrato Unbalanced load	Carico equilibrato Balanced load	Carico squilibrato Unbalanced load
Schema / Diagram		S200/3	S200/4	S200/6	S200/5	S200/7
100V	1A	TN2P1PA11A	TN2P2PA11A	TN2P4PA11A	TN2P3PA11A	TN2P5PA11A
100V	5A	TN2P1PA12A	TN2P2PA12A	TN2P4PA12A	TN2P3PA12A	TN2P5PA12A
110V	1A	TN2P1PA21A	TN2P2PA21A	TN2P4PA21A	TN2P3PA21A	TN2P5PA21A
110V	5A	TN2P1PA22A	TN2P2PA22A	TN2P4PA22A	TN2P3PA22A	TN2P5PA22A
230V	1A	TN2P1PA31A				
230V	5A	TN2P1PA32A				
240V	1A	TN2P1PA41A				
240V	5A	TN2P1PA42A				
400V	1A		TN2P2PA51A	TN2P4PA51A	TN2P3PA51A	TN2P5PA51A
400V	5A		TN2P2PA52A	TN2P4PA52A	TN2P3PA52A	TN2P5PA52A
415V	1A		TN2P2PA61A	TN2P4PA61A	TN2P3PA61A	TN2P5PA61A
415V	5A		TN2P2PA62A	TN2P4PA62A	TN2P3PA62A	TN2P5PA62A
440V	1A		TN2P2PA71A	TN2P4PA71A	TN2P3PA71A	TN2P5PA71A
440V	5A		TN2P2PA72A	TN2P4PA72A	TN2P3PA72A	TN2P5PA72A

Modello / Model		Tesi Q potenza reattiva / reactive power				
Linea Network		Monofase Single-phase	Trifase 3 fili / Three-phase 3 wire		Trifase 4 fili / Three-phase 4 wire	
			Carico equilibrato Balanced load	Carico squilibrato Unbalanced load	Carico equilibrato Balanced load	Carico squilibrato Unbalanced load
Schema / Diagram		S200/4	S200/6	S200/5	S200/7	
100V	1A	TN2Q2PA11A	TN2Q4PA11A	TN2Q3PA11A	TN2Q5PA11A	
100V	5A	TN2Q2PA12A	TN2Q4PA12A	TN2Q3PA12A	TN2Q5PA12A	
110V	1A	TN2Q2PA21A	TN2Q4PA21A	TN2Q3PA21A	TN2Q5PA21A	
110V	5A	TN2Q2PA22A	TN2Q4PA22A	TN2Q3PA22A	TN2Q5PA22A	
230V	1A					
230V	5A					
240V	1A					
240V	5A					
400V	1A	TN2Q2PA51A	TN2Q4PA51A	TN2Q3PA51A	TN2Q5PA51A	
400V	5A	TN2Q2PA52A	TN2Q4PA52A	TN2Q3PA52A	TN2Q5PA52A	
415V	1A	TN2Q2PA61A	TN2Q4PA61A	TN2Q3PA61A	TN2Q5PA61A	
415V	5A	TN2Q2PA62A	TN2Q4PA62A	TN2Q3PA62A	TN2Q5PA62A	
440V	1A	TN2Q2PA71A	TN2Q4PA71A	TN2Q3PA71A	TN2Q5PA71A	
440V	5A	TN2Q2PA72A	TN2Q4PA72A	TN2Q3PA72A	TN2Q5PA72A	

INGRESSO

Rete monofase o trifase 3 - 4 fili, carico equilibrato o squilibrato

Ingresso tensione: inserzione diretta o da TV esterno

Tensione nominale Un: 100 - 110 - 230 - 240 - 400 - 415 - 440V (fase-fase)

Ingresso corrente: inserzione da TA esterno

Corrente nominale In: 1 - 5A

Frequenza nominale fn: 50Hz

Frequenza di funzionamento: 47...63Hz

Opzione: frequenza nominale fn 40Hz

Sovraccarichi di breve durata (EN60051): In e 2Un/5s - Un e 2In/0,5s

Autoconsumo (per ogni fase): tensione $\leq 1VA$ - corrente $\leq 0,5VA$

CAMPI NOMINALI DI UTILIZZO

(EN60051)

Tensione: 85...115%Un (max. 450V)

Corrente: 0...120%In

Fattore di potenza: $\cos\phi$ 0,5 induttivo...1 (potenza attiva)

Fattore di potenza: $\sin\phi$ 0,5 induttivo...1 (potenza reattiva)

Forma d'onda: sinusoidale, fattore di distorsione < 20%

INTERVALLO DI MISURA

Potenza attiva: - Pn...0...Pn

Potenza reattiva: - Qn...0...Qn

Coefficiente di conversione (Potenza di calibratura): a richiesta, da specificare in sede di ordine

Potenza di calibratura Pc (Qc): 0,6...1,2Pn(Qn)

Dove:

Pn potenza attiva nominale

Qn potenza reattiva nominale

Pc potenza attiva di calibratura

Qc potenza reattiva di calibratura

Un tensione nominale (diretta o primario TV)

In corrente nominale (primario TA)

Es. potenza attiva trifase, linea 400V TA800/5A

$Pn = Un \times In \times \sqrt{3} = 400 \times 800 \times \sqrt{3} = 554,24kW$

potenza di calibratura $Pc = 0,6...1,2Pn = 332,544...665,088kW$

ALIMENTAZIONE AUSILIARIA

Derivata dalla misura (autoalimentato)

VISUALIZZAZIONE

Ampiezza scala: 90° (modelli RQ...) - 240° (modelli AQ...)

Colore scala: fondo bianco, divisioni e numerazione nere

Tracciatura scala: a richiesta

Precisione: cl.1,5 (indicatore analogico) - cl.0,5 (accessorio)

ISOLAMENTO

(EN61010-1)

Categoria di installazione: III

Grado di inquinamento: 2

Tensione di riferimento per l'isolamento: 300V (Fase-neutro)

Prova di tensione a impulso 5kV 1,2/50 μ s 0,5J

Circuiti considerati¹: ingresso corrente verso ingresso tensione e uscita

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

Circuiti considerati¹: ingresso corrente verso ingresso tensione e uscita

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

Circuiti considerati¹: tutti i circuiti e massa

Ingresso tensione - uscita accessorio non isolati

¹ circuiti accessorio

PROVE DI COMPATIBILITÀ ELETTRONICA

Prove di emissione e immunità in accordo con EN62052-11

INPUT

Single-phase, three-phase network, 3 and 4-wire, balanced and unbalanced load

Voltage input: direct connection or by external VT

Voltage rating Un: 100 - 110 - 230 - 240 - 400 - 415 - 440V (phase-phase)

Current input: connection by external CT

Current rating In: 1 - 5A

Frequency rating fn: 50Hz

Working frequency: 47...63Hz

Option: frequency rating fn 40Hz

Overloads of short duration (EN60051): In and 2Un/5s - Un and 2In/0,5s

Rated burden (each phase): voltage $\leq 1VA$ - current $\leq 0,5VA$

NOMINAL RANGE OF USE

(EN60051)

Voltage: 85...115%Un (max. 450V)

Current: 0...120%In

Power factor: $\cos\phi$ 0,5 inductive...1 (active power)

Power factor: $\sin\phi$ 0,5 inductive...1 (reactive power)

Waveform: sinusoidal, distortion factor < 20%

MEASURING RANGE

Active power: - Pn...0...Pn

Reactive power: - Qn...0...Qn

Conversion coefficient (Power of calibration): on request, data to be shown in addition to ordering code

Power of calibration Pc(Qc): 0,6...1,2Pn(Qn)

Where:

Pn active power rating

Qn reactive power rating

Pc active power of calibration

Qc reactive power of calibration

Un voltage rating (direct or VT primary)

In current rating (CT primary)

Ex. three-phase active power, network 400V TA800/5A

$Pn = Un \times In \times \sqrt{3} = 400 \times 800 \times \sqrt{3} = 554,24kW$

power of calibration $Pc = 0,6...1,2Pn = 332,544...665,088kW$

AUXILIARY SUPPLY

Taken from measurement (selfsupplied)

DISPLAY

Scale length: 90° (models RQ...) - 240° (models AQ...)

Scale colour: white background, black divisions and numbering

Scale marking: upon request

Accuracy: cl.1,5 (analog meter) - cl.0,5 (accessory)

INSULATION

(EN61010-1)

Installation category: III

Pollution degree: 2

Insulation voltage rating: 300V (Neutral-phase)

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

Considered circuits¹: current input towards voltage input and output

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

Considered circuits¹: current input towards voltage input and output

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

Considered circuits¹: all circuits and earth

No voltage input to accessory output isolation

¹ accessory circuits

TESTS OF ELECTROMAGNETIC COMPATIBILITY

Emission and immunity tests according to EN62052-11

CONDIZIONI AMBIENTALI

(EN60051)

Temperatura di riferimento: 23°C ± 2°C
 Temperatura di impiego: 0...40°C
 Condizione limite di temperatura: -10...55°C
 Temperatura di magazzino: -25...70°C
 Massima potenza dissipata²: ≤ 3,6W

²Per il dimensionamento termico dei quadri, riferita all'accessorio

CUSTODIA INDICATORE ANALOGICO

Dimensioni: vedi tabella
 Connessioni: morsetti a vite / faston 6,3 x 0,8mm
 Custodia: a incasso
 Foratura pannello: vedi tabella
 Profondità: vedi tabella
 Materiale custodia: policarbonato autoestinguente
 Grado di protezione (EN60529): IP52 (frontale), IP20(morsetti, con coprimorsetto)
 Opzione: protezione frontale IP54
 Peso: vedi tabella

ENVIRONMENTAL CONDITIONS

(EN60051)

Reference temperature: 23°C ± 2°C
 Nominal temperature range: 0...40°C
 Limit temperature range: -10...55°C
 Limit temperature range for storage: -25...70°C
 Max. power dissipation²: ≤ 3,6W

²For switchboard thermal calculation, referred to accessory

ANALOG METER HOUSING

Dimensions: see table
 Connections: screw terminal / fast-on 6,3 x 0,8mm
 Housing: flush mounting
 Panel cutout: see table
 Profondità: see table
 Housing material: self-extinguishing polycarbonate
 Protection degree (EN60529): IP52 (front frame), IP20(terminal, with protection)
 Option: protection IP54 (front frame)
 Weight: see table

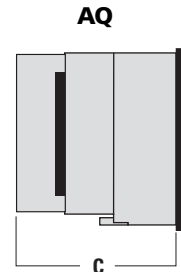
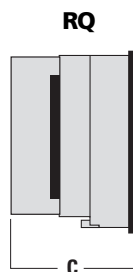
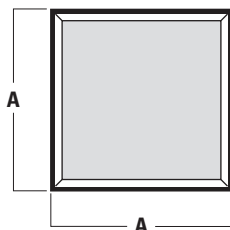
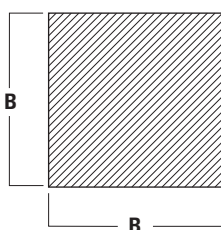
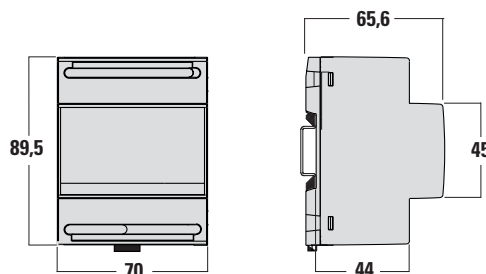
Modello Model	A	B	C	Peso Weight
RQ48M	48x48	45x45	75	120gr.
RQ72M	72x72	68x68	69	190gr.
RQ96M	96x96	92x92	69	260gr.
AQ48M	48x48	45x45	85,5	140gr.
AQ72M	72x72	68x68	84	240gr.
AQ6M	96x96	92x92	84	320gr.

CUSTODIA ACCESSORIO

Dimensioni: 4 moduli DIN 43880
 Connessioni: morsetti a vite
 Portata morsetti: cavo rigido min.0,05mm² / max. 4mm²
 cavo flessibile min.0,05mm² / max. 2,5mm²
 Montaggio: a incastro su profilato 35mm
 Tipo profilato: a cappello TH35-15 (EN60715)
 Materiale custodia: policarbonato autoestinguente
 Grado di protezione (EN60529): IP50 (frontale), IP20(morsetti)
 Peso: 250 grammi

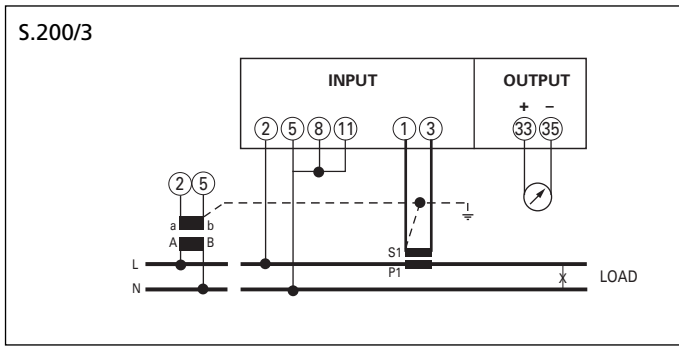
ACCESSORY HOUSING

Dimensions: 4 module DIN 43880
 Connections: screw terminals
 Terminal range: rigid cable min.0,05mm² / max. 4mm²
 flexible cable min.0,05mm² / max. 2,5mm²
 Mounting: snap-on 35mm rail
 Rail type: top hat TH35-15 (EN60715)
 Housing material: self-extinguishing polycarbonate
 Protection degree (EN60529): IP50 (front frame), IP20(terminal)
 Weight: 250 grams

DIMENSIONI DIMENSIONS**Accessorio 4 Moduli**

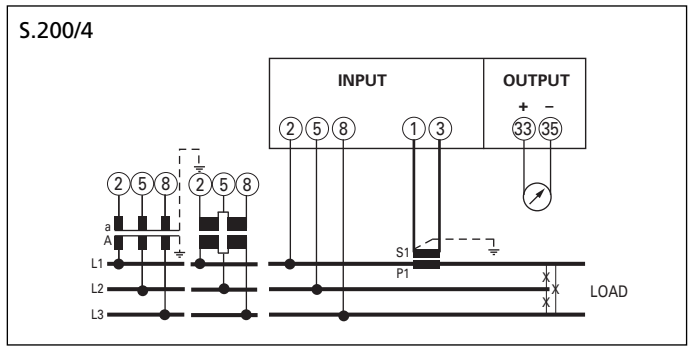
Tesi P

TN2P1...



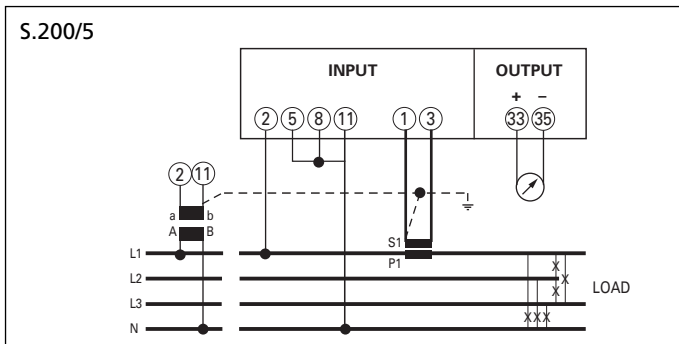
**Linea monofase
Single-phase**

TN2P2... / TN2Q2...



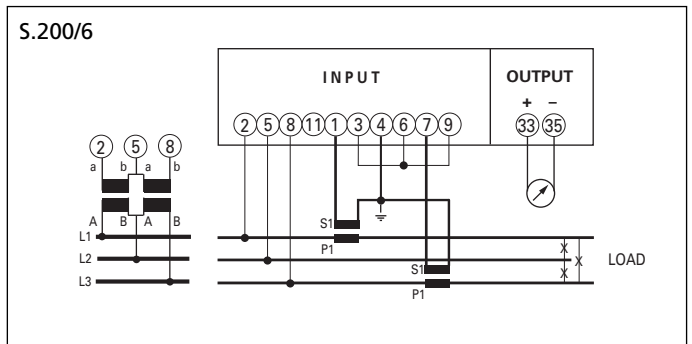
**Linea trifase 3 fili, carico equilibrato
Three-phase 3-wire, balanced load**

TN2P3... / TN2Q3



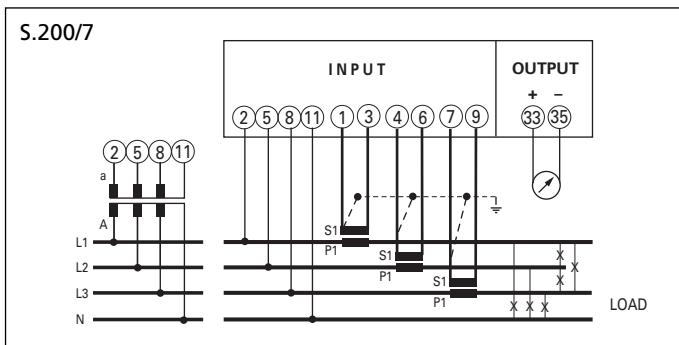
**Linea trifase 4 fili, carico equilibrato
Three-phase 4-wire, balanced load**

TN2P4... / TN2Q4...



**Linea trifase 3 fili, carico squilibrato ARON
Three-phase 3-wire, unbalanced load ARON**

TN2P5... / TN2Q5



**Linea trifase 4 fili, carico squilibrato
Three-phase 4-wire, unbalanced load**