

# Contatore Elettronico

## Istruzione di servizio



Contatore trifase di energia e potenza attiva, montaggio su guida DIN

Inserzione diretta 7KT1 500  
7KT1 510  
7KT1 501  
7KT1 511

Contatore trifase di energia e potenza attiva, e reattiva, montaggio su guida DIN

Inserzione diretta 7KT1 502  
7KT1 512  
7KT1 503  
7KT1 513

Contatore trifase di energia e potenza attiva, e reattiva, con interfaccia LAN montaggio su guida DIN

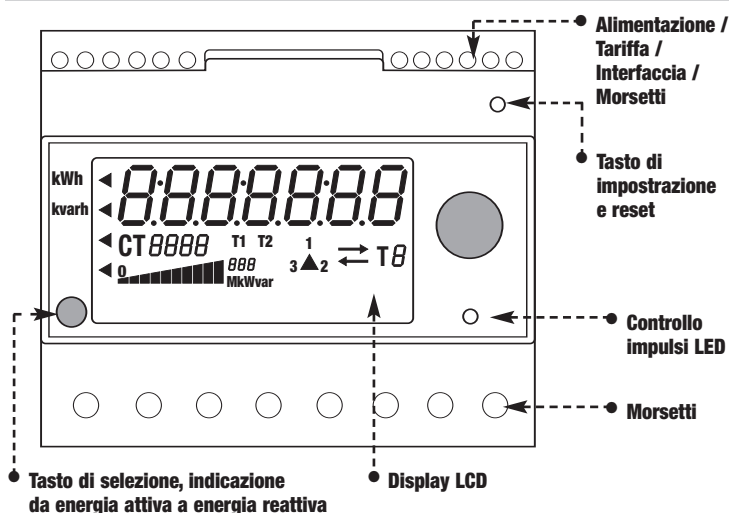
Inserzione diretta 7KT1 520  
Inserzione TA 7KT1 521



### ATTENZIONE

L'installazione deve essere effettuata e verificata da uno specialista o sotto la sua supervisione. Togliere tensione prima di intervenire sull'apparecchio!

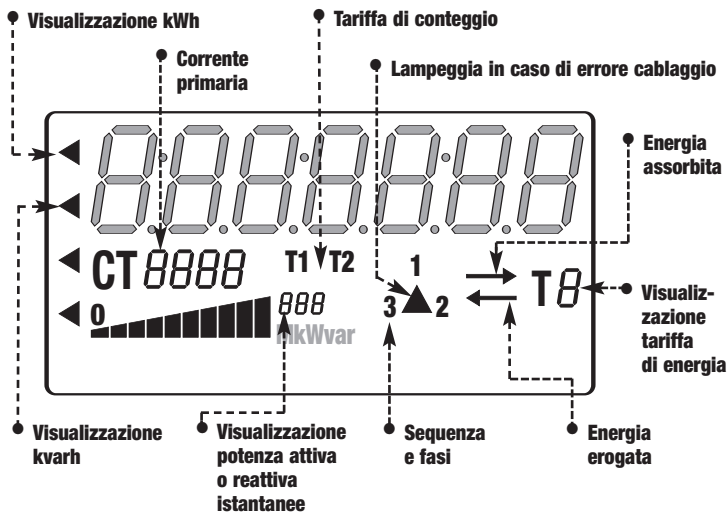
## Descizioni funzionalità



## Contatori di energia

	7KT1 500	7KT1 501	7KT1 502	7KT1 503	7KT1 510	7KT1 511	7KT1 512	7KT1 513	7KT1 520	7KT1 521
Collegamento trifase a 4 fili	●	●	●	●	●	●	●	●	●	●
Collegamento trifase a 3 fili		●	●	●	●	●	●	●	●	●
Collegamento monofase a 2 fili		●	●	●	●	●	●	●	●	●
Connessione diretta	●		●		●		●		●	
Collegamento con trasformatore di corrente da 10 a 5000/5 A		●		●		●		●		●
Per energia attiva	●	●	●	●	●	●	●	●	●	●
Per energia reattiva			●	●			●	●		●
Tariffa	1	1	1	1	2	2	2	2	2	2
Interfaccia SO	1	1	2	2	1	1	2	2	2	2
Interfaccia LAN									●	●
Posizione zero di conteggio			●	●	●	●	●	●	●	●

## Descrizione display

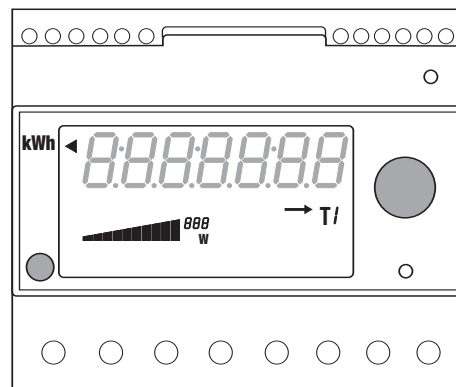


## Impostazione di fabbrica

Connessione elettrica: 3L/N  
 Misura visualizzata: kWh  
 Impulso costante: 0.001 imp/kWh  
 - solo per mod. 7KT1 500: 10 imp/kWh (fisso)  
 - solo per mod. 7KT1 501: 1 imp/kWh (fisso)  
 Solo per connessione TA: Corrente primaria TA = 5000 A  
 Corrente secondaria TA = 5 A

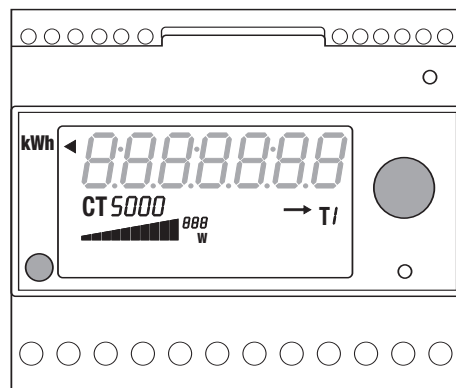
### Connessione diretta

7KT1 500  
7KT1 502  
7KT1 510  
7KT1 512  
7KT1 520



### Connessione TA -/5 A

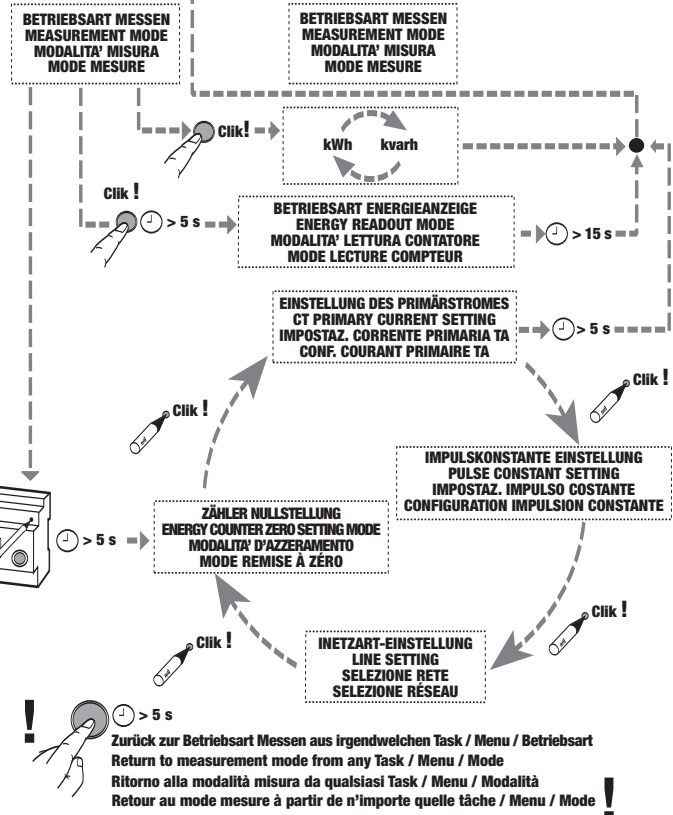
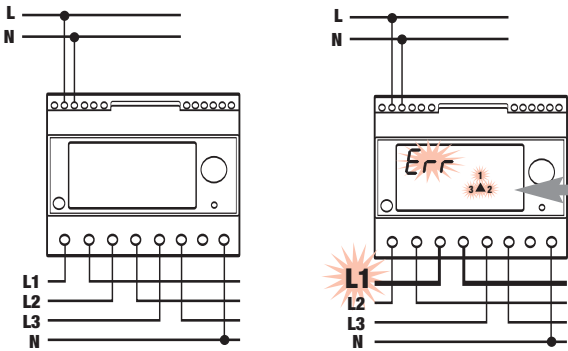
7KT1 501  
7KT1 503  
7KT1 511  
7KT1 513  
7KT1 521



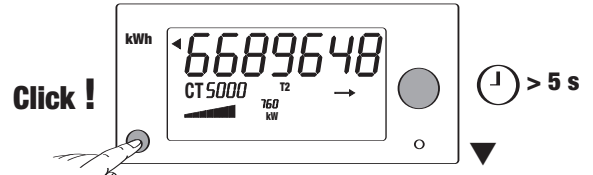
# Ablauf Diagramm / Operation flow diagram Schema di collegamento / Schéma de fonctionnement

Betriebsspannungsanschluß / Connection to aux. power  
Circuito di alimentazione ausiliaria / Connexion à l'alimentation auxiliaire

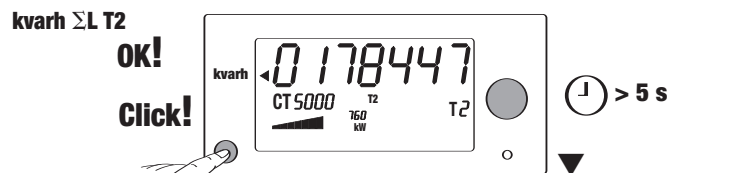
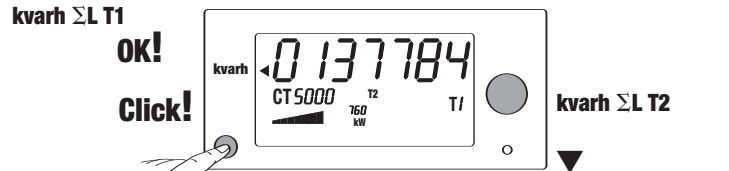
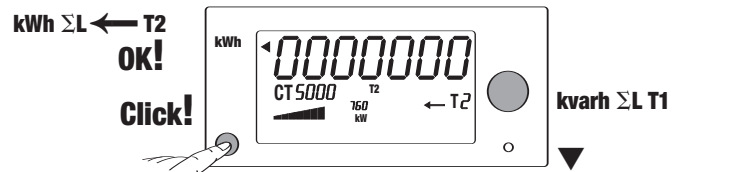
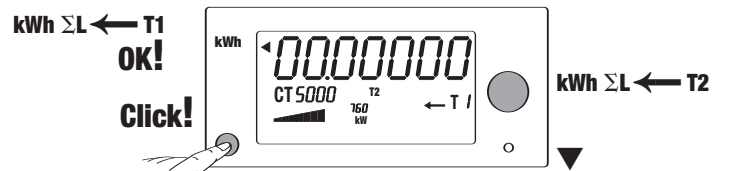
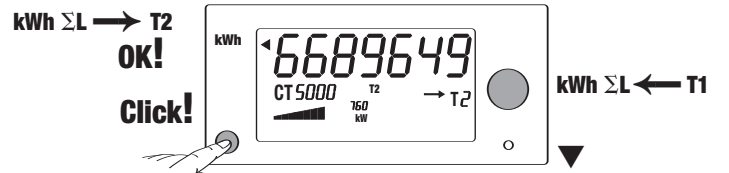
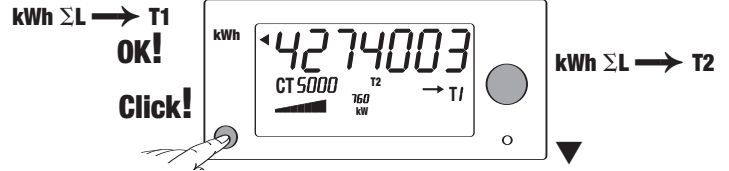
**⚠**  
Bei falschen Anschluss erfolgt keine Energiezählung  
With wrong connection no reading of energy does not happen  
Con collegamento errato non avviene nessuna lettura di energia  
En cas d'erreur de connexion, aucune lecture d'énergie n'est faite



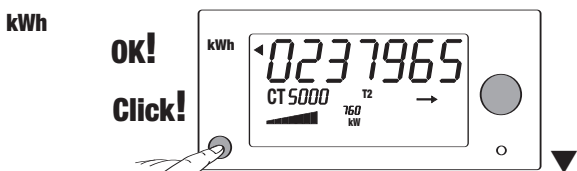
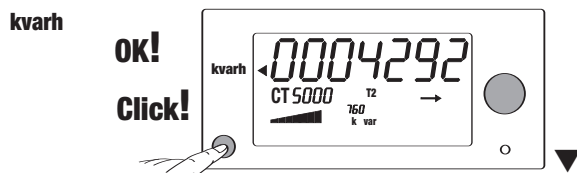
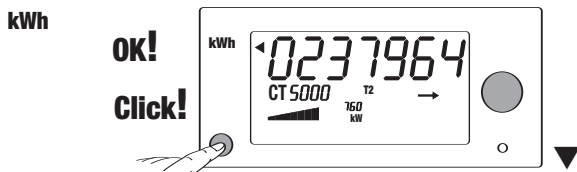
## BETRIEBSART MESSEN / MEASUREMENT MODE MODALITA' MISURA / MODE MESURE



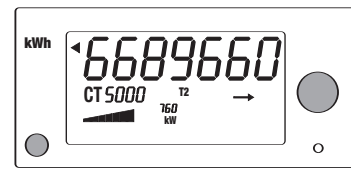
## BETRIEBSART ENERGIEANZEIGE / ENERGY READOUT MODE MODALITA' LETTURA CONTATORE / MODE LECTURE COMPTEUR



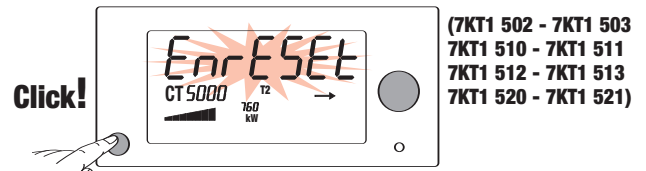
## BETRIEBSART MESSEN / MEASUREMENT MODE MODALITA' MISURA / MODE MESURE



## BETRIEBSART MESSEN / MEASUREMENT MODE MODALITA' MISURA / MODE MESURE

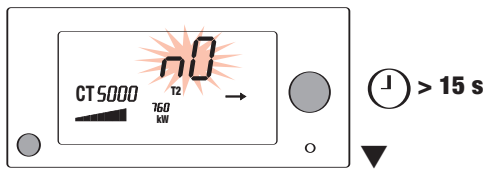


## ZÄHLER NULLSTELLUNG / ENERGY COUNTERS ZERO SETTING MODE MODALITA' AZZERAMENTO CONTATORE / MODE REMISE À ZÉRO COMPTEUR



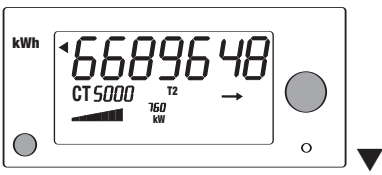
(7KT1 502 - 7KT1 503  
7KT1 510 - 7KT1 511  
7KT1 512 - 7KT1 513  
7KT1 520 - 7KT1 521)

5.322.671 kWh ΣL → T1  
6.689.648 kWh ΣL → T2  
842 kWh ΣL ← T1  
1353 kWh ΣL ← T2  
687700 kvarh ΣL T1  
800128 kvarh ΣL T2

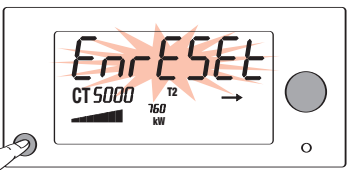


**J** > 15 s

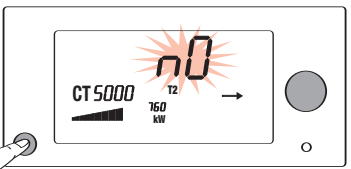
**BETRIEBSART MESSEN / MEASUREMENT MODE  
MODALITA' MISURA**



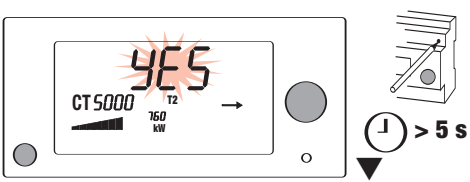
**ZÄHLER NULLSTELLUNG / ENERGY COUNTERS ZERO SETTING MODE  
MODALITA' AZZERAMENTO CONTATORE / MODE REMISE À ZÉRO COMPTEUR**



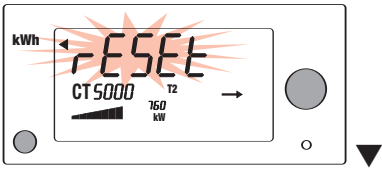
Click!



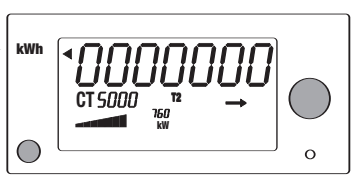
Click!



**J** > 5 s

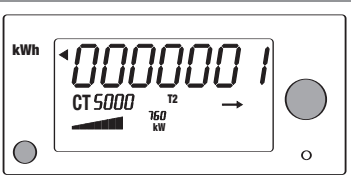


- OK!**
- 0 kWh ΣL → T1
  - 0 kWh ΣL → T2
  - 0 kWh ΣL ← T1
  - 0 kWh ΣL ← T2
  - 0 kvarh ΣL T1
  - 0 kvarh ΣL T2

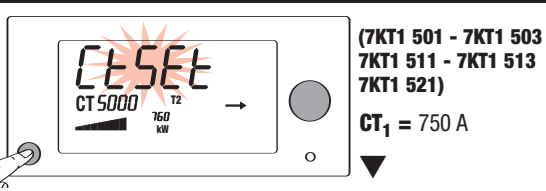


**BETRIEBSART MESSEN / MEASUREMENT MODE  
MODALITA' MISURA / MODE MESURE**

- Wandler  
CT  
TA
- 0 kWh
  - 0 kvarh

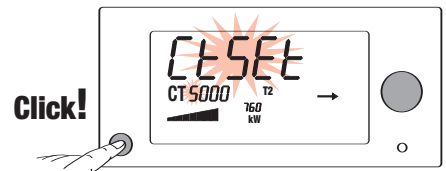


**EINSTELLUNG DES PRIMÄRSTROMES / CT PRIMARY CURRENT SETTING MODE  
IMPOSTAZIONE CORRENTE PRIMARIA TA / CONFIGURATION COURANT PRIMAIRE CT**

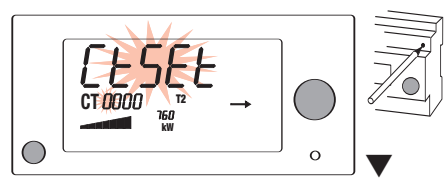


Click!

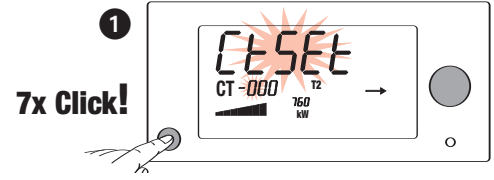
(7KT1 501 - 7KT1 503  
7KT1 511 - 7KT1 513  
7KT1 521)  
CT<sub>1</sub> = 750 A



Click!



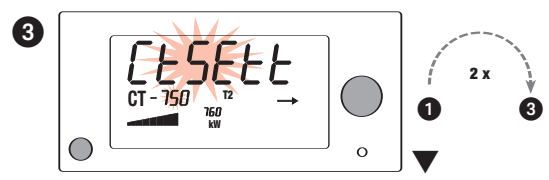
Click!



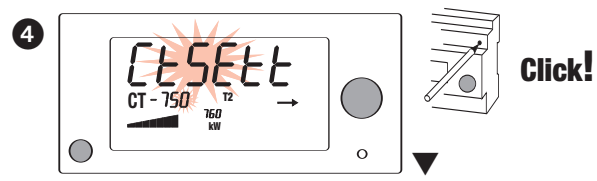
7x Click!



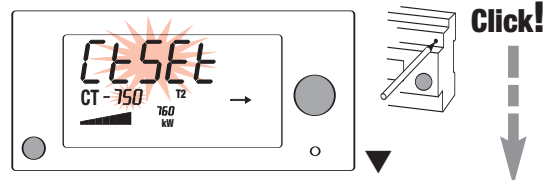
Click!



2 x

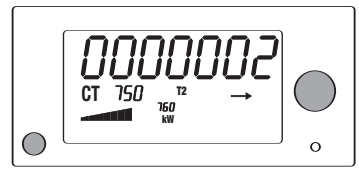


Click!

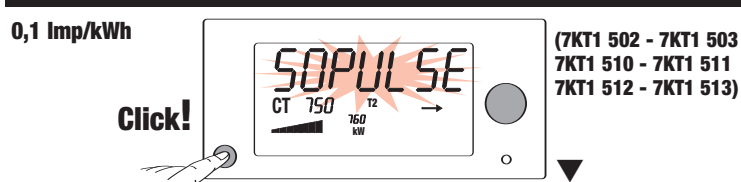


Click!

**BETRIEBSART MESSEN / MEASUREMENT MODE  
MODALITA' MISURA / MODE MESURE**



**IMPULSKONSTANTE EINSTELLUNG / PULSE CONSTANT SETTING  
IMPOSTAZIONE IMPULSO COSTANTE / CONFIGURATION IMPULSION COSTANTE**

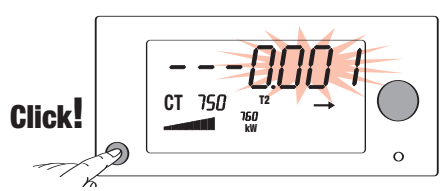


Click!

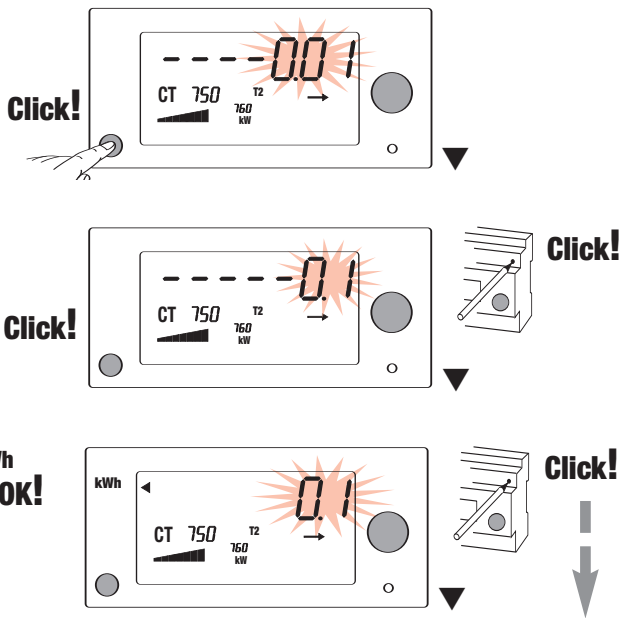
0,1 Imp/kWh

(7KT1 502 - 7KT1 503  
7KT1 510 - 7KT1 511  
7KT1 512 - 7KT1 513)

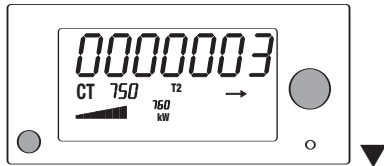
Bemerkung: Max 4 imp/s! / Note: Max 4 imp/s! / Notes: max 4 imp/s!



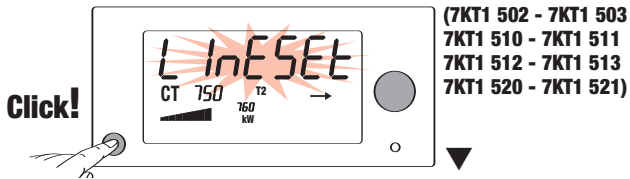
Click!



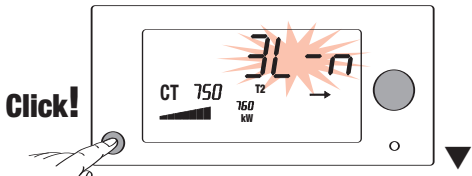
**BETRIEBSART MESSEN / MEASUREMENT MODE  
MODALITA' MISURA / MODE MESURE**



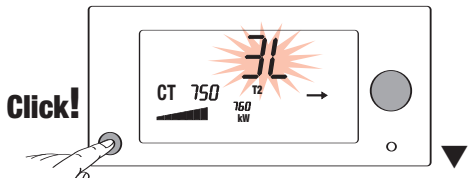
**NETZART-EINSTELLUNG / LINE SETTING  
SELEZIONE RETE / SELEZIONE RESEAU**



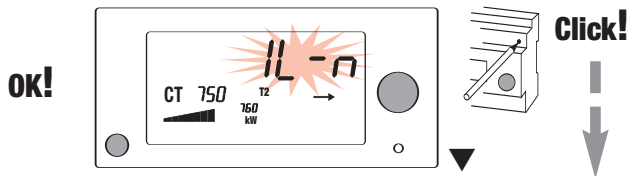
3P+N



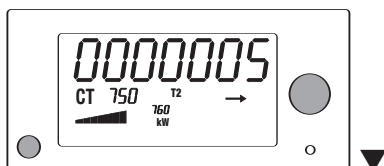
3P



1P+N

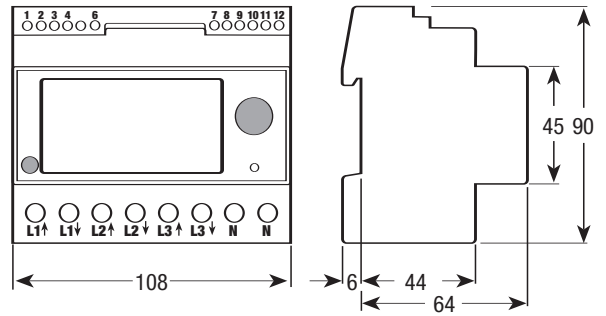


**BETRIEBSART MESSEN / MEASUREMENT MODE  
MODALITA' MISURA / MODE MESURE**

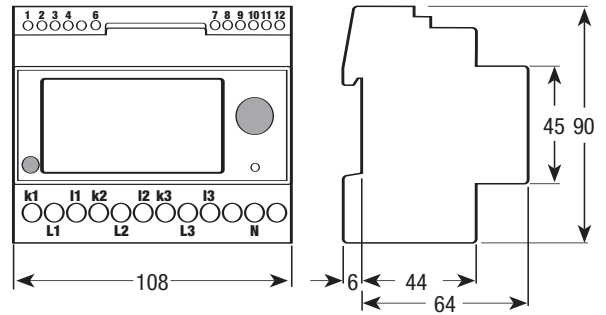


**Maße / Dimension / Dimensioni / Dimensions**

**7KT1 500 - 7KT1 502 - 7KT1 510 - 7KT1 512 - 7KT1 520**



**7KT1 501 - 7KT1 503 - 7KT1 511 - 7KT1 513 - 7KT1 521**



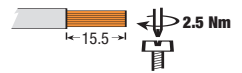
**Abisolierlänge und Max Drehmoment  
Cable stripping length and max terminal screw torque  
Lunghezza di spelatura dei fili e coppia massima di serraggio  
Longueur de dénudage des fils et couple de serrage maximum**

**63 A Direktanschluss Hauptklemmen**

**63 A Direct connection main terminals**

**63 A connessione diretta morsetti principali**

**63 A connexion directe bornes principales**

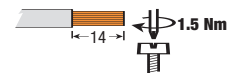


**5 A Wandleranschluss Hauptklemmen**

**5 A CT connection main terminals**

**5 A connessione TA morsetti principali**

**5 A connexion CT bornes principales**

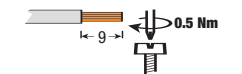


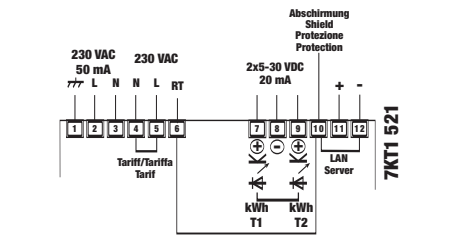
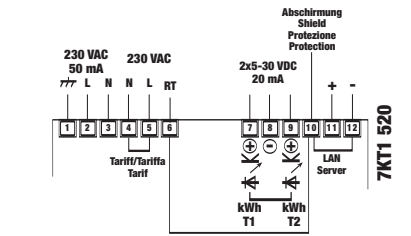
**Betriebsspannungs-Tarif- und Datenübertragungsklemmen**

**Auxiliary supply, Tariff and communication terminals**

**Morsetti alimentazione ausiliaria, Tariffe e comunicazioni**

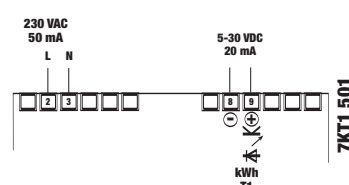
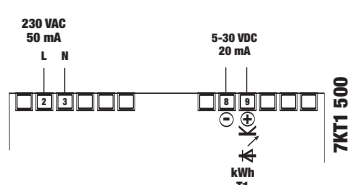
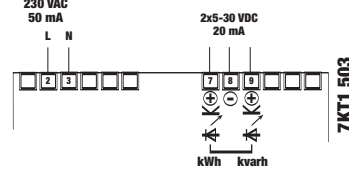
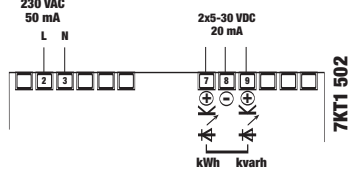
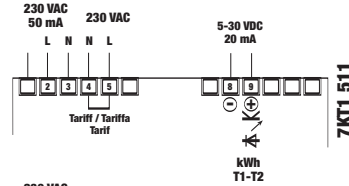
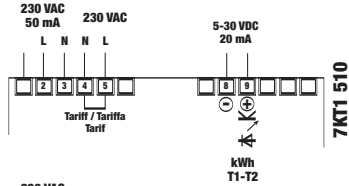
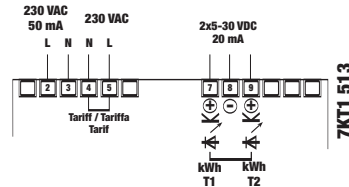
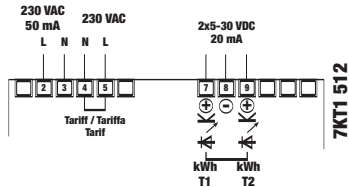
**Bornes alimentation auxiliaire, tarifs et communications**



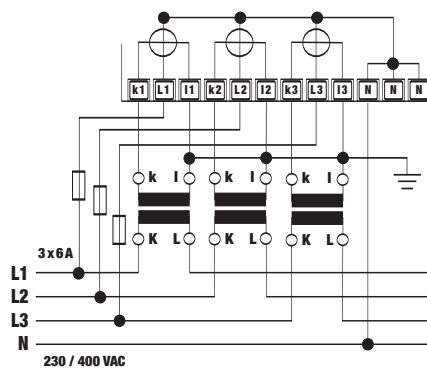
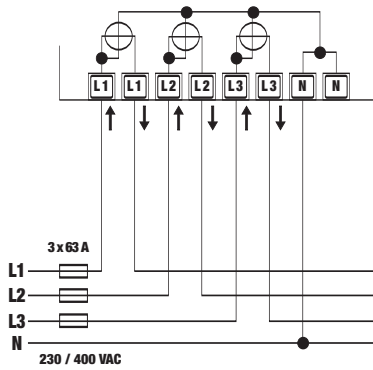


nur für Terminierung: Klemme 6 (RT) mit Klemme 10 (Abschirmung) verbinden  
Terminal connection: connect terminal 6 (RT) to terminal 10 (earth)  
Terminazione: collegare morsetto 6 (RT) con morsetto 10 (terra)  
Terminalson: connecter la borne 6 (RT) à la borne 10 (terre)

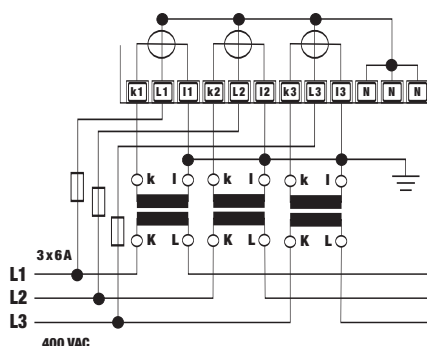
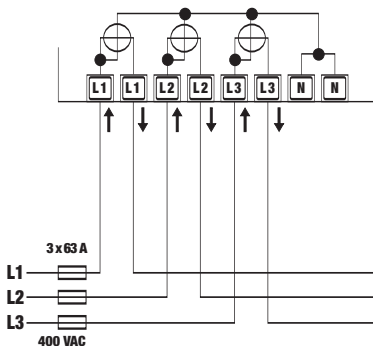
Bei Terminal-Geräten: Klemme 6 (RT) mit Klemme 10 (Abschirmung) verbinden  
For terminal instruments: connect terminal 6 (RT) to terminal 10 (earth)  
Se strumento terminale: collegare morsetto 6 (RT) con morsetto 10 (terra)  
S'il s'agit de l'instrument d'extrémité: connecter la borne 6 (RT) à la borne 10 (terre)



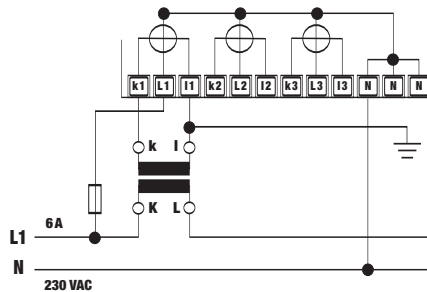
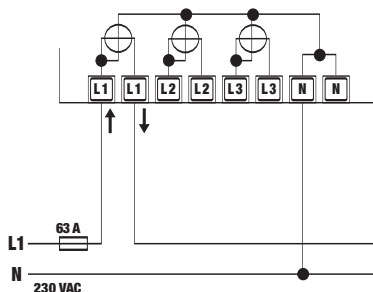
3P+N



3P



1P+N



Secondo DIN EN 61010-1, DIN EN 62053-11, -21, -31

			7KT1 500, 7KT1 502 7KT1 510, 7KT1 512 7KT1 520	7KT1 501, 7KT1 503, 7KT1 511, 7KT1 513, 7KT1 521
<b>Visualizzazione</b>				
• Errore di collegamento	riconoscibile dall'indicatore sequenza fasi		ERR	
• Energia attiva: 1 indicatore, 7 cifre + indicazione assorbita o erogata (freccia)		kWh	000000,0 ... 999999,9	
• Energia reattiva: 1 indicatore, 7 cifre + indicazione assorbita o erogata (freccia)		kvarh	000000,0 ... 999999,9	
• Potenza attiva: 1 indicatore, 3 cifre + indicazione assorbita o erogata (freccia)		kW o MW	000 ... 999	
• Potenza reattiva: 1 indicatore, 3 cifre + indicazione assorbita o erogata (freccia)		kvar o Mvar	000 ... 999	
• Tariffa attuale	7KT1 500, 7KT1 501, 7KT1 502, 7KT1 503		1	
• Secondario riduttore	7KT1 510, 7KT1 511, 7KT1 512 7KT1 513, 7KT1 520, 7KT1 521		1 o 2	
• Riconoscimento della tariffa	7KT1 510, 7KT1 511, 7KT1 512, 7KT1 513, 7KT1 520, 7KT1 521		T1 o T2	
• Primario del riduttore di corrente	impostabile in passi da 5 A	A	-	5 ... 5000
• Ciclo di visualizzazione		/s	2	
• Memorizzazione delle impostazioni e dei valori di energia			EEPROM	
<b>Precisione (dei valori nominali <math>I_n</math> - <math>I_b</math> - <math>U_n</math>)</b>				
• Energia	attiva IEC 62053-21 reattiva IEC 62053-23	classe 2 classe 3	- - $\pm 2 \dots \pm 4 \pm 1$ digit	
• Potenza attiva o reattiva				
<b>Interfaccia S0</b>				
• Uscita	IEC 62053-31 7KT1 500, (7KT1 501) fissa 7KT1 502, 7KT1 510, 7KT1 512, 7KT1 520 per inserzione diretta impostabile 7KT1 503, 7KT1 511, 7KT1 513, 7KT1 521 per inserzione TA -/5 A impostabile	Imp/kWh Imp/kWh Imp/kWh	10 10(*)-1-0.1-0.01-0.001 -	(1) - 10(*)-1-0.1-0.01-0.001
• Durata impulso		ms	125 $\pm$ 25 ms	
• Pausa minima fra 2 impulsi		ms	125 $\pm$ 25 ms	
• Tensione necessaria	min. (max)	V c.c.	5 ... 30	
• Corrente consentita	impulso ON min. (max)	mA	5 ... 20	
• Corrente consentita	impulso OFF min. (max)	mA	0 ... 2	
<b>LAN interface</b>				
• Tecnica Plug and Play	7KT1 520, 7KT1 521			
• Morsetti			• $\pm$ , schermatura	
<b>Sicurezza secondo DIN EN 61010-1</b>				
• Grado di inquinamento			2	
• Categoria di sovratensione			II	
• Tensione di funzionamento		V	600	
• Tenuta all'impulso	1.2/50 $\mu$ s	kV	4	
<b>Morsetti</b>				
• Amperometriche	vite impronta $\pm$	(Pozidrive) mm	PZ2	PZ1
• Alimentazione e ausiliarie	vite impronta a taglio	mm x mm	0.8 x 3.5	
• Sezione conduttori amperometriche	rigido max / rigido (min.)	mm <sup>2</sup>	1 x 25 o 2 x 16 / (1 x 1.5)	1 x 6 o 2 x 4 / (1 x 0.95)
• Sezione conduttori alimentazione e ausiliarie	rigido max / (min.) flessibile con capocorda max / (min.)	mm <sup>2</sup> mm <sup>2</sup>	2.5 / (0.14) 1.5 / (0.25)	
<b>Condizioni ambientali</b>				
• Temperatura		°C	0 ... +55	
• Umidità relativa	immagazzinamento	%	$\leq$ 80	
• Vibrazioni	con ampiezza sinusoidale a 50 Hz	mm	$\pm$ 0.25	
• Grado di protezione	(morsetti)		IP40 (IP20)	
• Grado di protezione	DIN EN 61010-1		II	
<b>Alimentazione</b>				
• Tensione nominale di alimentazione $U_n$		V	230	
• Campo di variazione		$xU_n$	0.80 ... 1.20	
• Frequenza nominale		Hz	50	
• Campo di variazione		Hz	45 ... 65	
• Potenza assorbita $P_V$		VA	$\leq$ 10	
<b>Ingressi di misura</b>				
• Inserzione			diretta	TA -/5 A
• Tensione $U_n$	fase/fase fase/N	V V	400 230	
• Campo di tensione	fase/fase fase/N	V V	87 ... 480 50 ... 276	
• Corrente $I_b / I_e$		A	63	5
• Campo di corrente	diretta TA -/5 A	A A	0.3 ... 76 -	- 0.012 ... 6
• Riduttore di corrente	primario minimo impostabile	A A	- -	5 .. 5000 5
• Frequenza		Hz	50	
• Campo frequenza		Hz	45 ... 65	
<b>Sovraccaricabilità</b>				
• Tensione $U_n$	permanente; fase/fase 1 secondo: fase/fase permanente; fase/N 1 secondo: fase/N	V V V V	480 800 276 460	
• Corrente $I_b / I_e$	permanente 0,5 secondo 10 ms	A A A	76 - 2000	6 110 -

(\*) ATTENZIONE: il valore 10 non va utilizzato se il trasformatore di corrente (TA) supera 1000/5A oppure 1000/1A