

### Bedienungsanleitung



Statischer Energiezähler, 3-phasig, für Wirkenergie, Hutschienenmontage

- Direktanschluß **7KT1 500**
- 7KT1 510**
- Wandleranschluß **7KT1 501**
- 7KT1 511**

Statischer Energiezähler, 3-phasig, für Wirk- und Blindenergie, Hutschienenmontage

- Direktanschluß **7KT1 502**
- 7KT1 512**
- Wandleranschluß **7KT1 503**
- 7KT1 513**

Statischer Energiezähler, 3-phasig, für Wirk- und Blindenergie, Hutschienenmontage mit LAN Schnittstelle

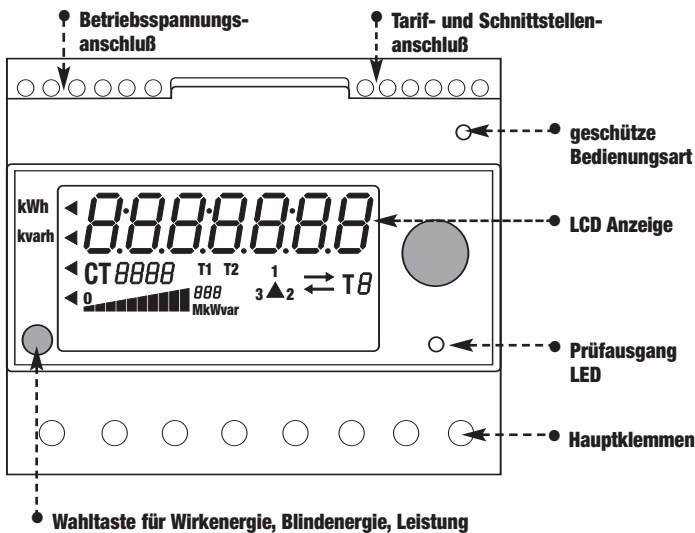
- Direktanschluß **7KT1 520**
- Wandleranschluß **7KT1 521**



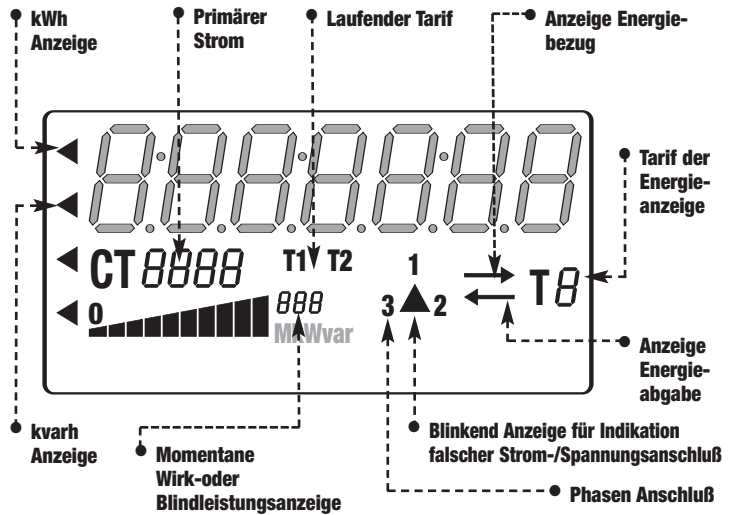
### WARNUNG

Die Installation muß von einer Elektrofachkraft oder unter deren Leitung und Aufsicht durchgeführt und geprüft werden. Bei Arbeiten am Meßgerät Netzspannung abschalten!

### Anzeigen und Bedienelemente



### Anzeigen



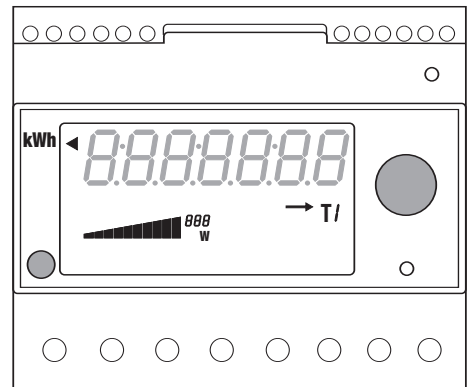
### Grundeinstellung

Netzarteinstellung: **3L/N**  
 Maßeinheit: **kWh**  
 Impulskonstante: **0.001 imp/kWh**  
 - nur für 7KT1 500: 10 imp/kWh (fest)  
 - nur für 7KT1 501: 1 imp/kWh (fest)  
 Wandler Primärstrom = **5000 A**  
 Wandler Sekundärstrom = **5 A**

Nur für Wandleranschluß:

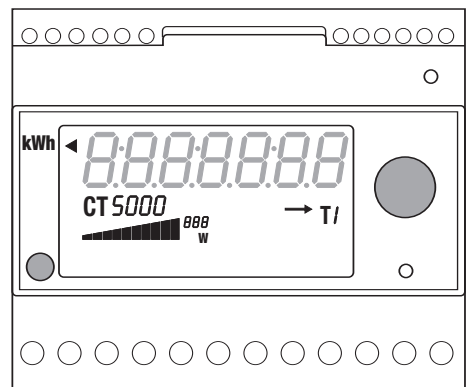
### Geräte für Direktanschluß

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



### Geräte für Wandleranschluß

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



### Energiezähler

	7KT1 500	7KT1 501	7KT1 502	7KT1 503	7KT1 510	7KT1 511	7KT1 512	7KT1 513	7KT1 520	7KT1 521
für 3-Phasen, 4-Leiteranschluß	•	•	•	•	•	•	•	•	•	•
für 3-Phasen, 3-Leiteranschluß	•	•	•	•	•	•	•	•	•	•
für 1-Phase, 2-Leiteranschluß	•	•	•	•	•	•	•	•	•	•
für Direktanschluß	•	•	•	•	•	•	•	•	•	•
für Wandleranschluß von 10 bis 5.000/1 A oder /5 A	•	•	•	•	•	•	•	•	•	•
für Wirkenergie	•	•	•	•	•	•	•	•	•	•
für Blindenergie	•	•	•	•	•	•	•	•	•	•
Tarife	1	1	1	1	2	2	2	2	2	2
mit SO Schnittstelle	1	1	2	2	1	1	2	2	2	2
mit LAN Schnittstelle	•	•	•	•	•	•	•	•	•	•
Zählerstand Nullstellung	•	•	•	•	•	•	•	•	•	•

# Energy meter

## Operating instructions



Static electricity meter, 3-phase, for active energy metering, DIN rail mounting

Direct connection 7KT1 500  
7KT1 510  
7KT1 501  
CT connection 7KT1 511

Static electricity meter, 3-phase, for active and reactive energy metering, DIN rail mounting

Direct connection 7KT1 502  
7KT1 512  
CT connection 7KT1 503  
7KT1 513

Static electricity meter, 3-phase, for active and reactive energy metering, DIN rail mounting with LAN interface

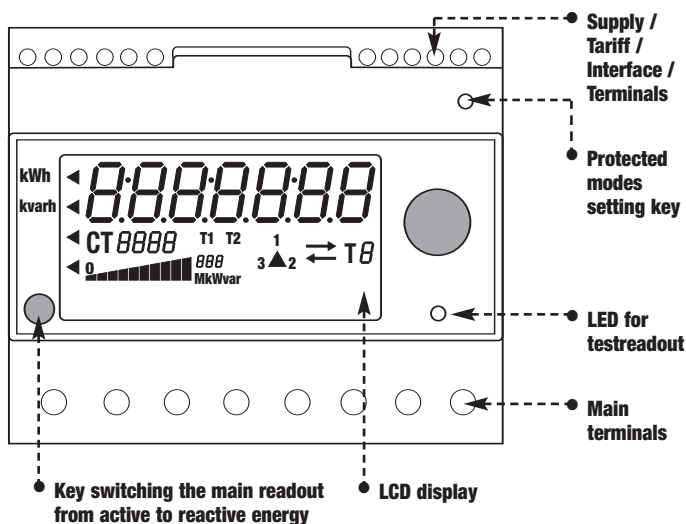
Direct connection 7KT1 520  
CT connection 7KT1 521



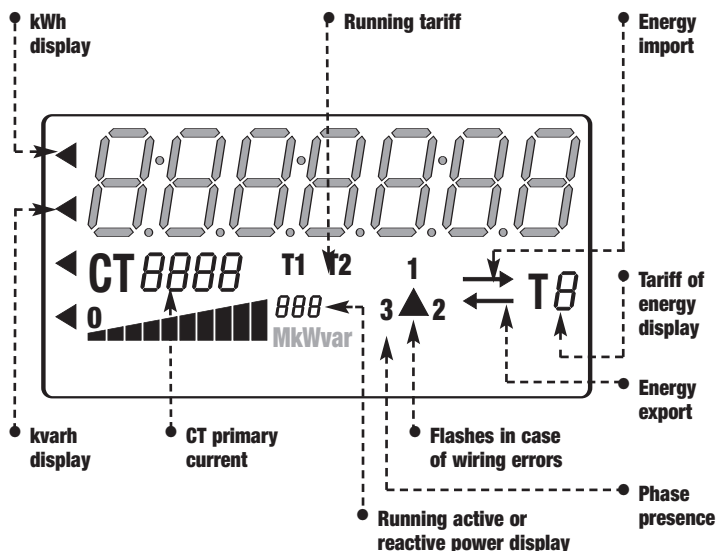
### WARNING

Installation must be carried out and inspected by a specialist or under his supervision. When working on the instrument, switch off the mains voltage!

## Device functional elements



## Display details

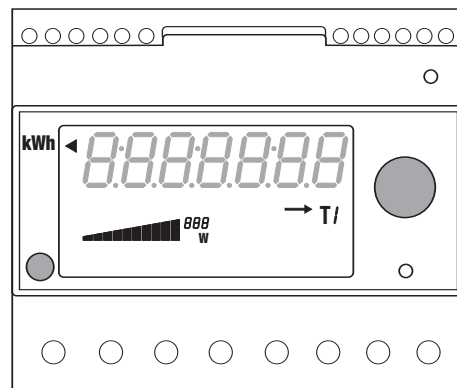


## Factory presetting

Electrical connection: 3L/N  
Measure Displayed: kWh  
Pulse constant: 0.001 imp/kWh  
- only for 7KT1 500: 10 imp/kWh (fixed)  
- only for 7KT1 501: 1 imp/kWh (fixed)  
CT connection models only:  
CT primary current = 5000 A  
CT secondary current = 5 A

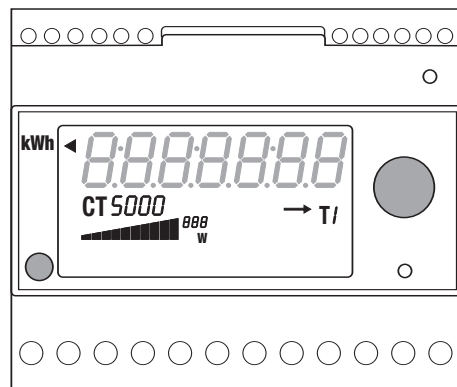
### Direct connection models

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



### CT connection models

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



# Electricity meter

	7KT1 500	7KT1 501	7KT1 502	7KT1 503	7KT1 510	7KT1 511	7KT1 512	7KT1 513	7KT1 520	7KT1 521
For 3-phase, 4-wires	•	•	•	•	•	•	•	•	•	•
For 3-phase, 4-wires	•	•	•	•	•	•	•	•	•	•
For 1-phase, 2-wires	•	•	•	•	•	•	•	•	•	•
Direct connection	•	•	•	•	•	•	•	•	•	•
Current transformer connection, 10 to 5000/5 A	•	•	•	•	•	•	•	•	•	•
For active energy	•	•	•	•	•	•	•	•	•	•
For reactive energy	•	•	•	•	•	•	•	•	•	•
Tariffs	1	1	1	1	2	2	2	2	2	2
SO pulse output	1	1	2	2	1	1	2	2	2	2
LAN interface	•	•	•	•	•	•	•	•	•	•
Count zero position	•	•	•	•	•	•	•	•	•	•

# 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

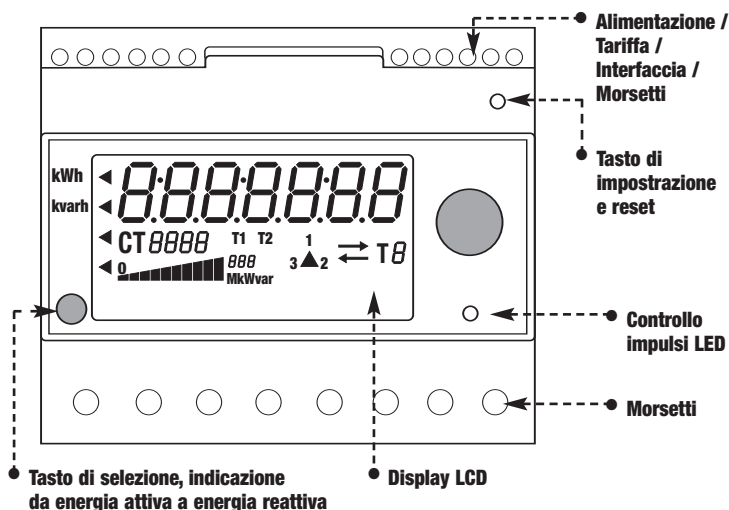
Inserzione diretta 7KT1 520  
Inserzione TA 7KT1 521



### ATTENZIONE

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

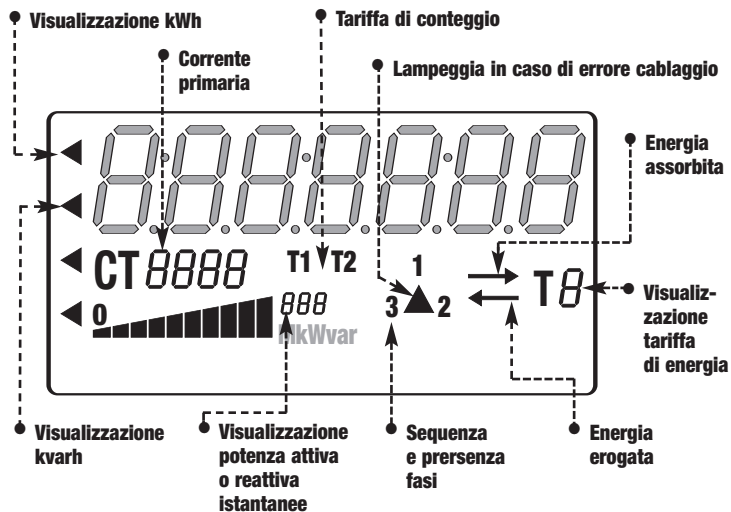
## Descizioni funzionalità



## 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

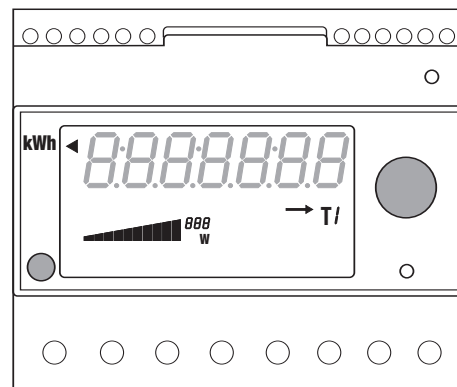


## Impostazione di fabbrica

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

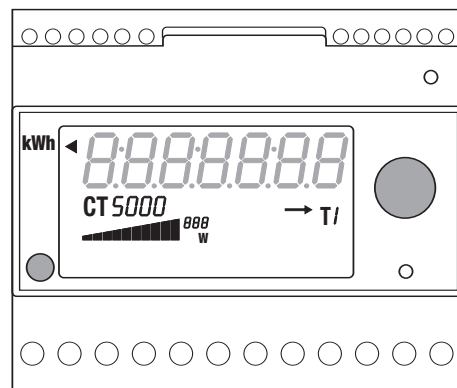
### Connessione diretta

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



### Connessione TA -/5 A

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



# Compteur d'Énergie

## Mode d'emploi



Compteur d'énergie, puissance triphasée active, installation sur rail DIN

Connexion directe 7KT1 500  
7KT1 510  
7KT1 501  
Connexion CT 7KT1 511

Compteur d'énergie, puissance triphasée active, et réactive, installation sur rail DIN

Connexion directe 7KT1 502  
7KT1 512  
Connexion CT 7KT1 503  
7KT1 513

Compteur d'énergie, puissance triphasée active et réactive, avec interface LAN installation sur rail DIN

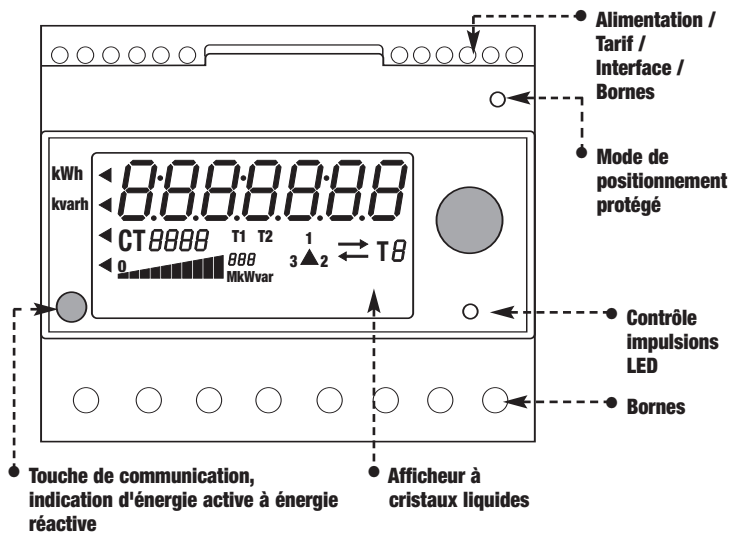
Connexion directe 7KT1 520  
Connexion CT 7KT1 521



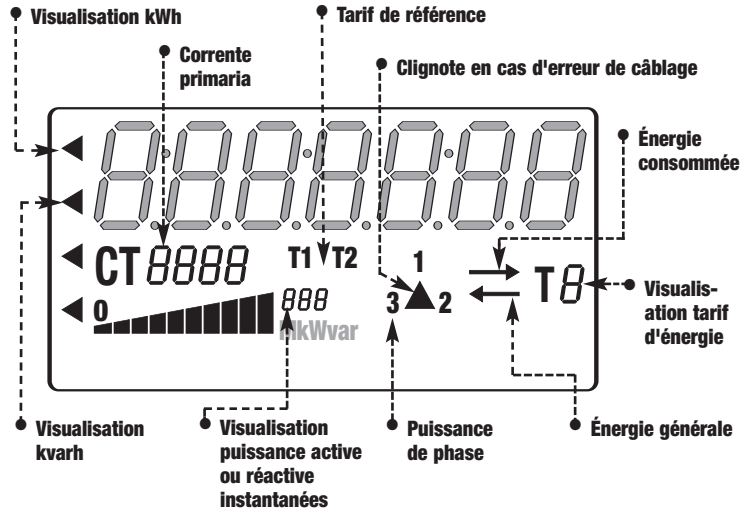
### ATTENTION

L'installation doit être effectuée et contrôlée par un spécialiste ou sous sa supervision. Débrancher toutes les connexions au secteur avant d'intervenir sur l'appareil!

## Descriptions fonctions



## Description afficheur

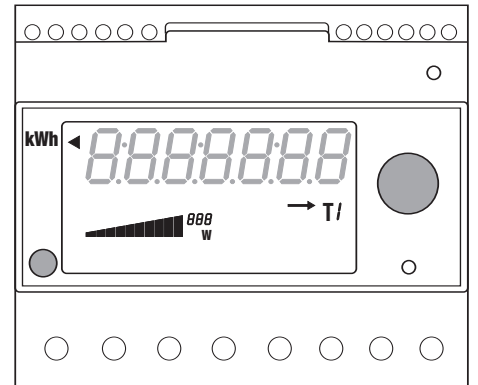


## Valeur d'usine

Connexion électrique: 3L/N  
Mesure affichée: kWh  
Impulsion constante: 0.001 imp/kWh  
- seulement pour 7KT1 500: 10 imp/kWh (fixe)  
- seulement pour 7KT1 501: 1 imp/kWh (fixe)  
Seulement pour connexion CT: Courant primaire CT = 5000 A  
Courant secondaire CT = 5 A

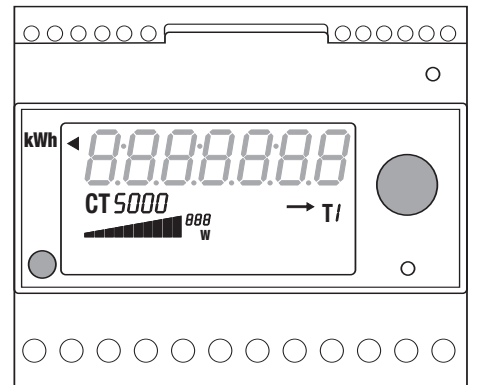
### Connexion Directe

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



### Connexion CT -/5 A

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



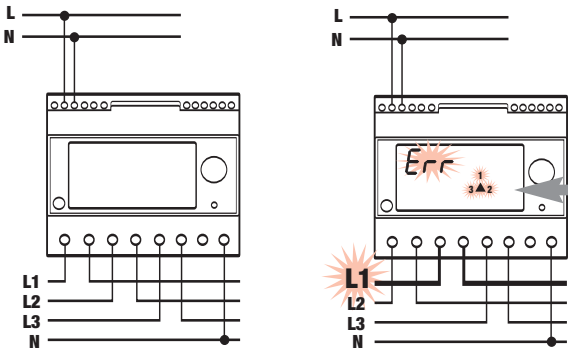
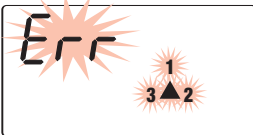
## Compteurs d'énergie

	7KT1 500	7KT1 501	7KT1 502	7KT1 503	7KT1 510	7KT1 511	7KT1 512	7KT1 513	7KT1 520	7KT1 521
Branchement triphasé à 4 fils	●	●	●	●	●	●	●	●	●	●
Branchement triphasé à 3 fils	●	●	●	●	●	●	●	●	●	●
Branchement monophasé à 2 fils	●	●	●	●	●	●	●	●	●	●
Connexion directe	●		●		●		●		●	
Connexion avec transformateur de courant de 10 à 5000/5 A		●		●		●		●		●
Pour énergie active	●	●	●	●	●	●	●	●	●	●
Pour énergie réactive			●	●			●	●		●
Tarif	1	1	1	1	2	2	2	2	2	2
Interface SO	1	1	2	2	1	1	2	2	2	2
Interface LAN									●	●
Position zéro de conteggio			●	●	●	●	●	●	●	●

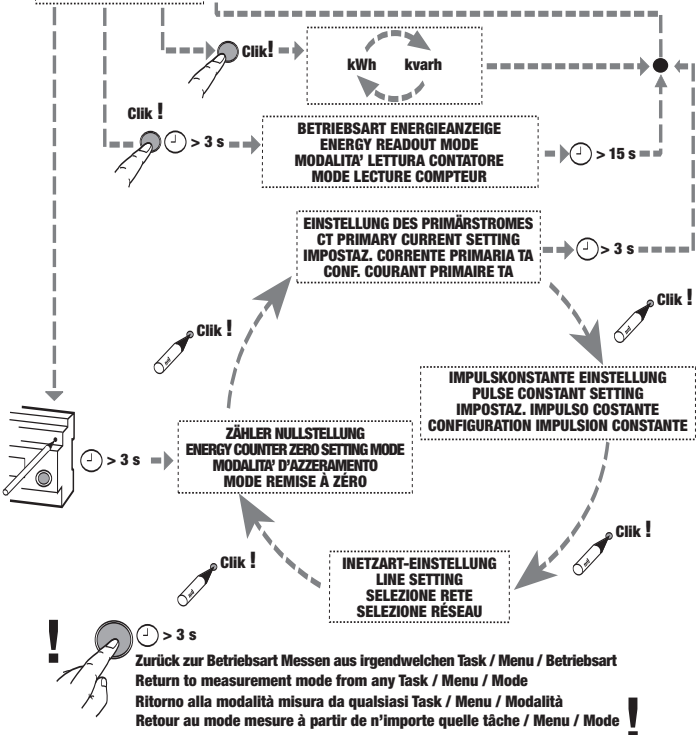
**Ablauf Diagramm / Operation flow diagram**  
**Schema di collegamento / Schéma de fonctionnement**

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

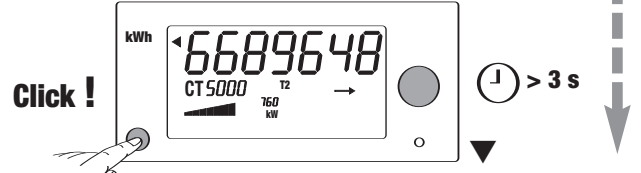
**Bei falschen Anschluss erfolgt keine Energiezählung**  
**With wrong connection no reading of energy does not happen**  
**Con collegamento errato non avviene nessuna lettura di energia**  
**En cas d'erreur de connexion, aucune lecture d'énergie n'est faite**



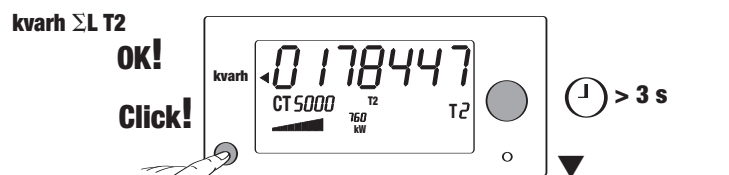
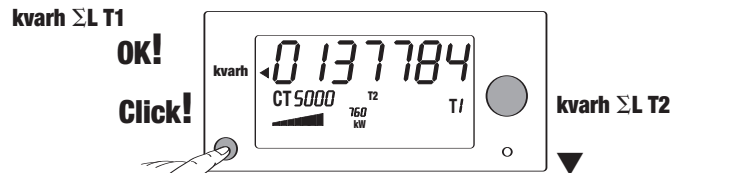
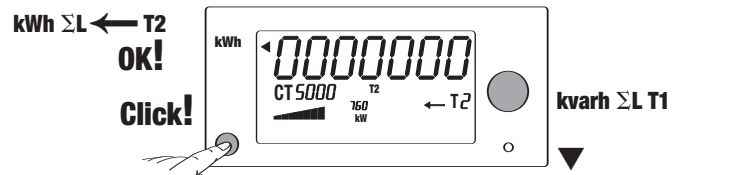
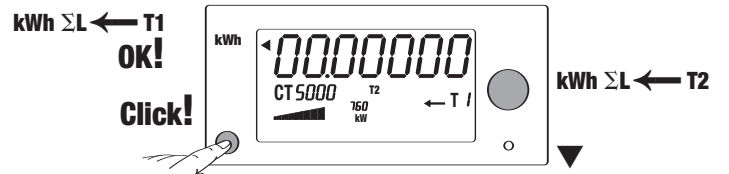
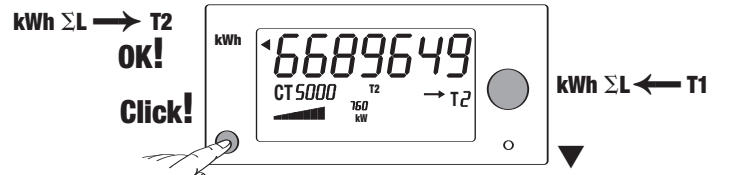
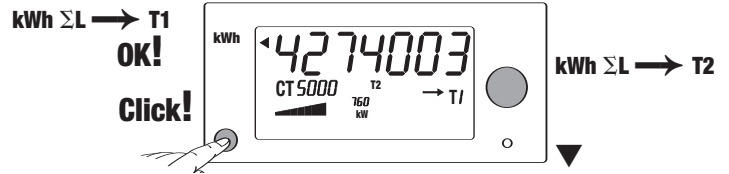
**BETRIEBSART MESSEN / MEASUREMENT MODE**  
**MODALITA' MISURA / MODE MESURE**



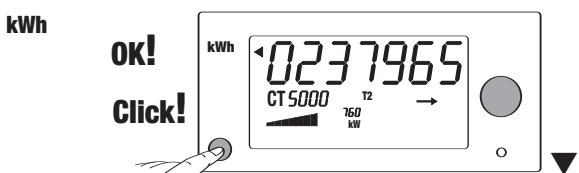
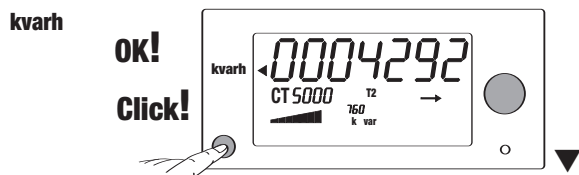
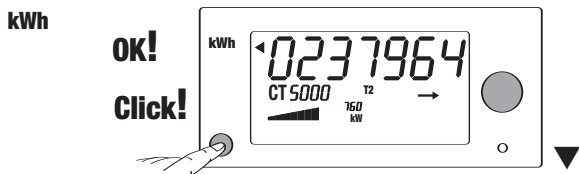
**BETRIEBSART MESSEN / MEASUREMENT MODE**  
**MODALITA' MISURA / MODE MESURE**



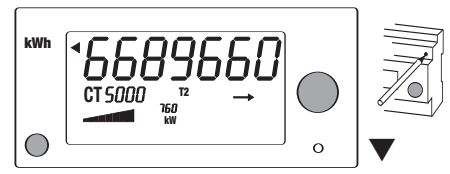
**BETRIEBSART ENERGIEANZEIGE / ENERGY READOUT MODE**  
**MODALITA' LETTURA CONTATORE / MODE LECTURE COMPTEUR**



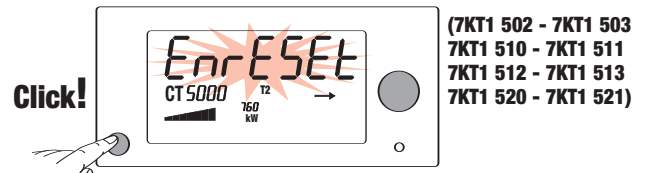
**BETRIEBSART MESSEN / MEASUREMENT MODE**  
**MODALITA' MISURA / MODE MESURE**



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



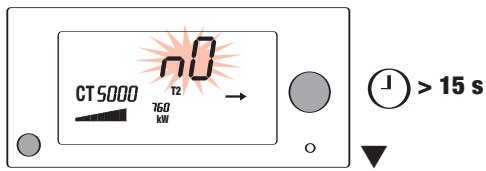
**ZÄHLER NULLSTELLUNG / ENERGY COUNTERS ZERO SETTING MODE**  
**MODALITA' AZZERAMENTO CONTATORE / MODE REMISE À ZÉRO COMPTEUR**



5.322.671 kWh  $\Sigma L \rightarrow T1$   
 6.689.648 kWh  $\Sigma L \rightarrow T2$   
 842 kWh  $\Sigma L \leftarrow T1$   
 1353 kWh  $\Sigma L \leftarrow T2$

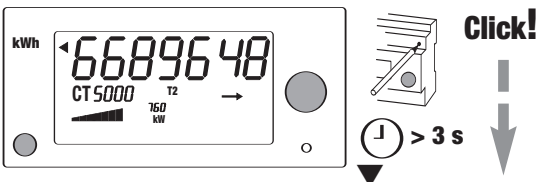
687700 kvarh  $\Sigma L T1$   
 800128 kvarh  $\Sigma L T2$

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



> 15 s

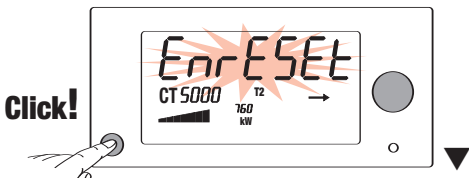
**BETRIEBSART MESSEN / MEASUREMENT MODE  
MODALITA' MISURA**



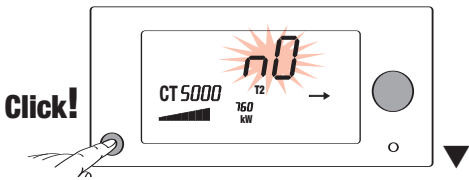
Click!

> 3 s

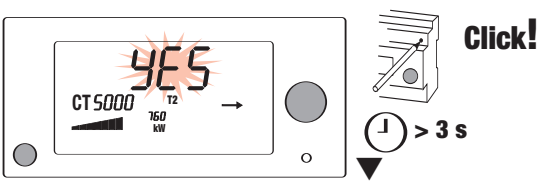
**ZÄHLER NULLSTELLUNG / ENERGY COUNTERS ZERO SETTING MODE  
MODALITA' AZZERAMENTO CONTATORE / MODE REMISE À ZÉRO COMPTEUR**



Click!

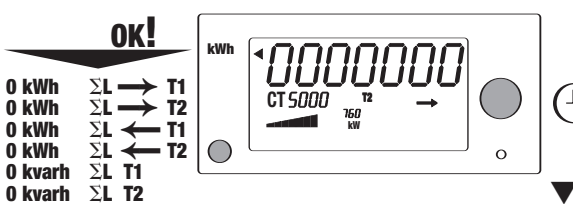
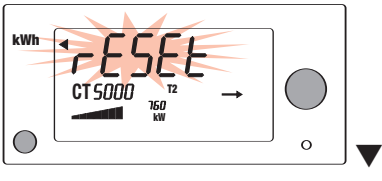


Click!



Click!

> 3 s

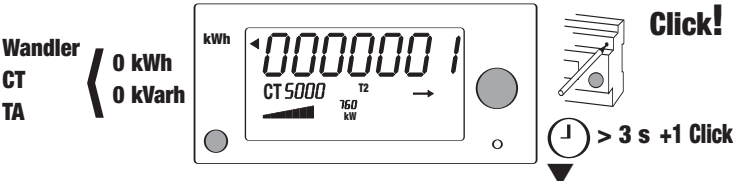


OK!

> 3 s

- 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**

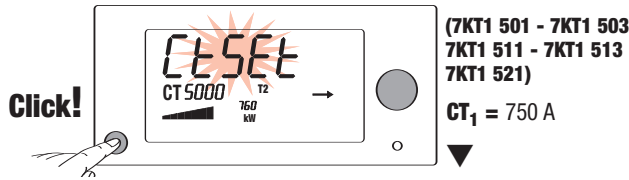


Click!

> 3 s + 1 Click

- Wandler < 0 kWh
- CT < 0 kWh
- TA < 0 kvarh

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

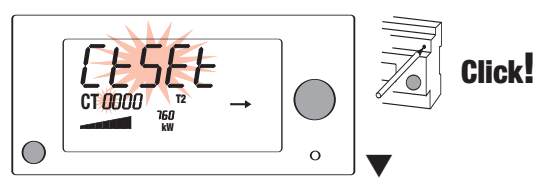


Click!

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



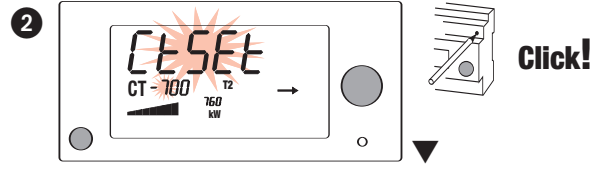
Click!



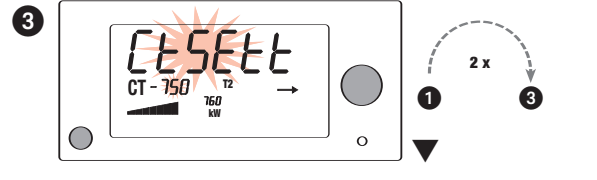
Click!



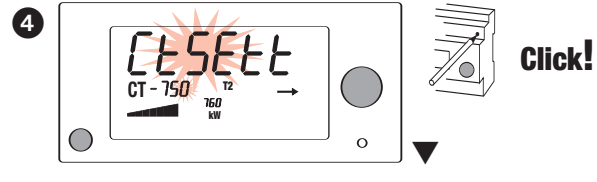
7x Click!



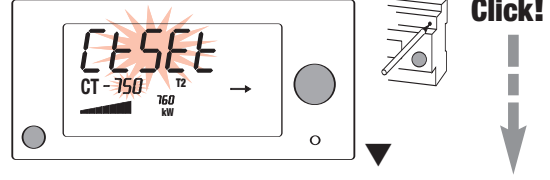
Click!



2 x

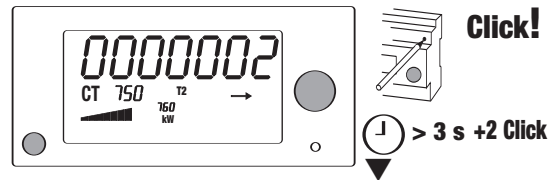


Click!



Click!

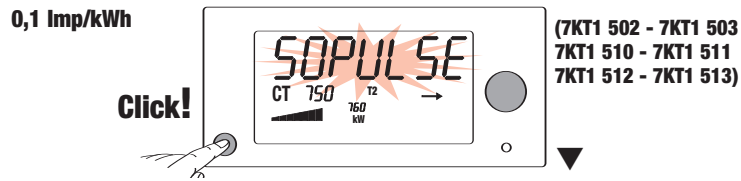
**BETRIEBSART MESSEN / MEASUREMENT MODE  
MODALITA' MISURA / MODE MESURE**



Click!

> 3 s + 2 Click

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

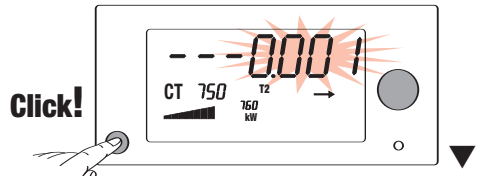


Click!

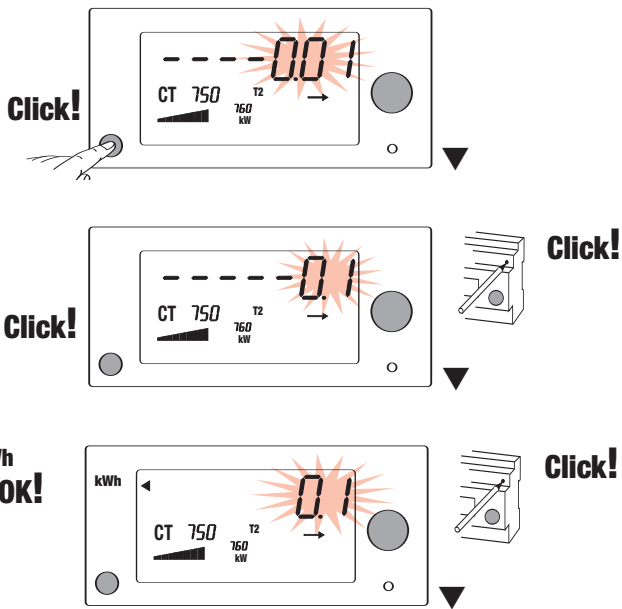
0,1 Imp/kWh

(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!

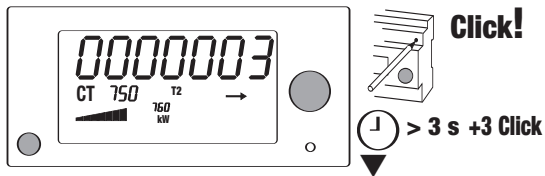


Click!

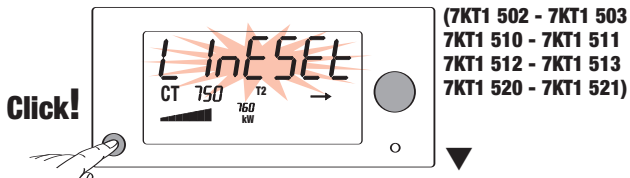


0,1 Imp/kWh  
OK!

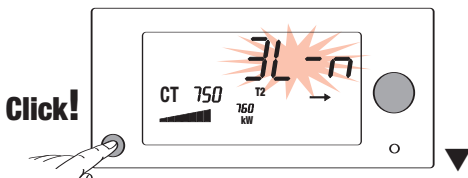
**BETRIEBSART MESSEN / MEASUREMENT MODE  
MODALITA' MISURA / MODE MESURE**



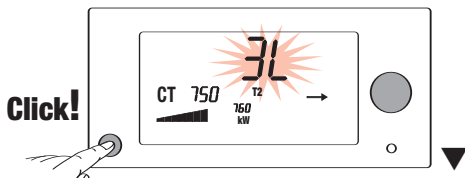
**NETZART-EINSTELLUNG / LINE SETTING  
SELEZIONE RETE / SELEZIONE RÉSEAU**



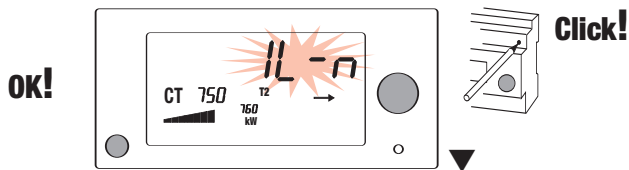
3P+N



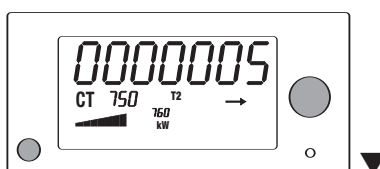
3P



1P+N

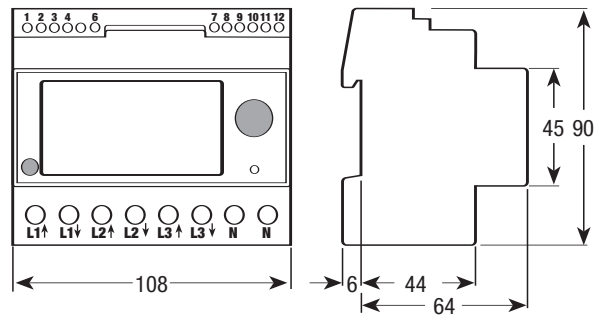


**BETRIEBSART MESSEN / MEASUREMENT MODE  
MODALITA' MISURA / MODE MESURE**

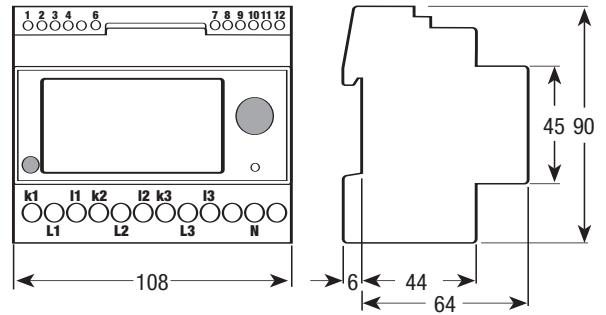


**Maße / Dimension / Dimensioni / Dimensions**

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



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



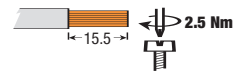
**Abisolierlänge und Max Drehmoment  
Cable stripping length and max terminal screw torque  
Lunghezza di spelatura dei fili e coppia massima di serraggio  
Longueur de dénudage des fils et couple de serrage maximum**

63 A Direktanschluss Hauptklemmen

63 A Direct connection main terminals

63 A connessione diretta morsetti principali

63 A connexion directe bornes principales

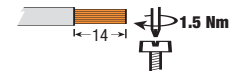


5 A Wandleranschluss Hauptklemmen

5 A CT connection main terminals

5 A connessione TA morsetti principali

5 A connexion CT bornes principales

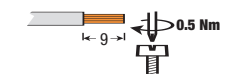


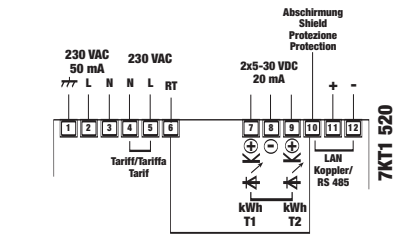
Betriebsspannungs-Tarif- und Datenübertragungsklemmen

Auxiliary supply, Tariff and communication terminals

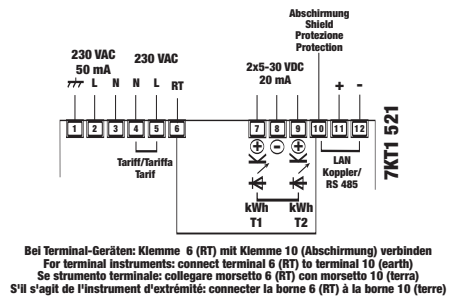
Morsetti alimentazione ausiliaria, Tariffe e comunicazioni

Bornes alimentation auxiliaire, tarifs et communications

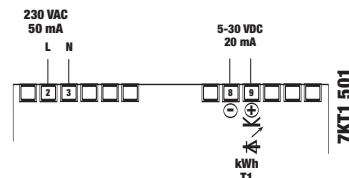
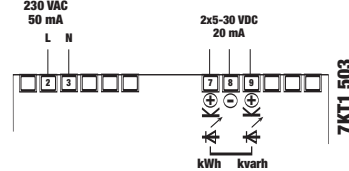
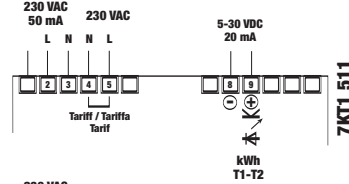
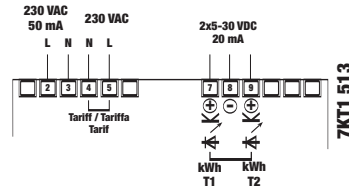
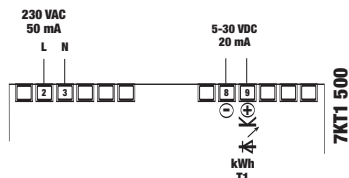
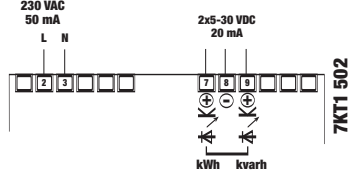
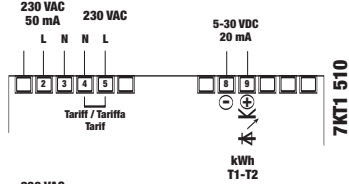
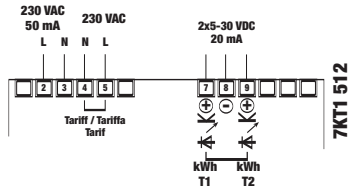




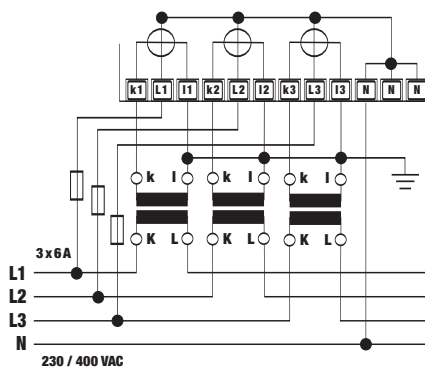
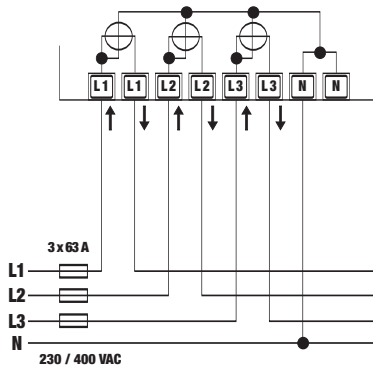
nur für Terminierung: Klemme 6 (RT) mit Klemme 10 (Abschirmung) verbinden  
 Terminal connection: connect terminal 6 (RT) to terminal 10 (earth)  
 Terminazione: collegare morsetto 6 (RT) con morsetto 10 (terra)  
 Terminalson: connecter la borne 6 (RT) à la borne 10 (terre)



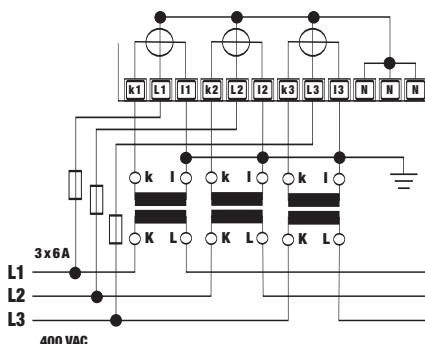
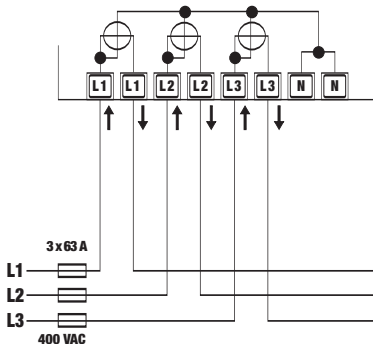
Bei Terminal-Geräten: Klemme 6 (RT) mit Klemme 10 (Abschirmung) verbinden  
 For terminal instruments: connect terminal 6 (RT) to terminal 10 (earth)  
 Se strumento terminale: collegare morsetto 6 (RT) con morsetto 10 (terra)  
 S'il s'agit de l'instrument d'extrémité: connecter la borne 6 (RT) à la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



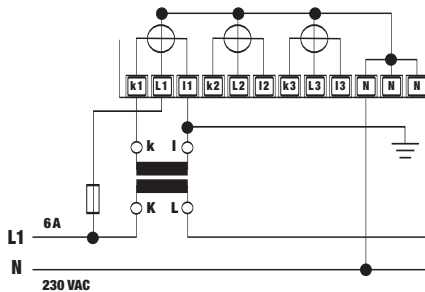
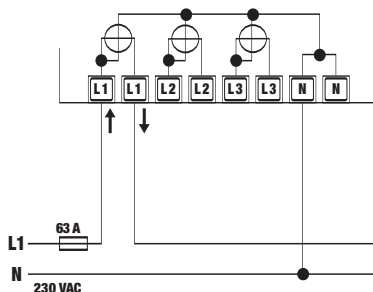
3P+N



3P



1P+N





Daten nach 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>Anzeige</b>				
• Anschlussfehler	Erkennbar durch Drehfeldanzeige		ERR	
• Wirkenergie: 1 Anzeige, 7-stellig + Anzeige Bezug oder Liefern (Pfeil)		kWh	000000,0 ... 999999,9	
• Blindenergie: 1 Anzeige, 7-stellig + Anzeige Bezug oder Liefern (Pfeil)		kvarh	000000,0 ... 999999,9	
• Wirkleistung: 1 Anzeige, 3-stellig + Anzeige Bezug oder Liefern (Pfeil)		kW oder MW	000 ... 999	
• Blindleistung: 1 Anzeige, 3-stellig + Anzeige Bezug oder Liefern (Pfeil)		kvar oder Mvar	000 ... 999	
• Momentan gemessener Tariff 1 Anzeige, 1-stellig	bei 7KT1 500, 7KT1 501, 7KT1 502, 7KT1 503 bei 7KT1 510, 7KT1 511, 7KT1 512 7KT1 513, 7KT1 520, 7KT1 521 bei 7KT1 510, 7KT1 511, 7KT1 512, 7KT1 513, 7KT1 520, 7KT1 521		1 1 oder 2 T1 oder T2	
• Tarifierkennung der Anzeige				
• Wandler Primärstrom	einstellbar in 5 A-Schritten	A	-	5 ... 5000
• Anzeigezyklus		/s	2	
• Speicherung der Einstellung und der Energiewerte			EEPROM	
<b>Messgenauigkeit (von Nominalwerten <math>I_n</math> - <math>I_b</math> - <math>U_n</math>)</b>				
• Energie	Wirkenergie nach IEC 62053-21 Blindenergie nach IEC 62053-23	Klasse 2 Klasse 3	- - ±2 ... ±4 ±1 Digit	
• Wirk- oder Blindleistung				
<b>S0-Schnittstelle</b>				
• Klemmenausgang	nach IEC 62053-31 bei 7KT1 500, (7KT1 501) fest bei 7KT1 502, 7KT1 510, 7KT1 512, 7KT1 520 bei 63 A, einstellbar, bei 7KT1 503, 7KT1 511, 7KT1 513, 7KT1 521 abhängig Wandlerfaktor einstellbar	Imp/kWh Imp/kWh Imp/kWh	10 10(*)-1-0.1-0.01-0.001 - -	(1) - - 10(*)-1-0.1-0.01-0.001
• Impulsdauer		ms	125 ±25 ms	
• Minimale Pause zwischen 2 Impulsen		ms	125 ±25 ms	
• Erforderliche Spannung	min. (max)	V DC	5 ... 30	
• Erlaubter Strom	Impuls ON min. (max)	mA	5 ... 20	
• Erlaubter Strom	Impuls OFF min. (max)	mA	0 ... 2	
<b>LAN-Interface</b>				
• Plug-and-Play-Technik	nur bei 7KT1 520, 7KT1 521			
• Klemmen				±, Abschirmung
<b>Sicherheit nach DIN EN 61010-1</b>				
• Verschmutzungsgrad			2	
• Überspannungskategorie			II	
• Betriebsspannung		V	600	
• Prüfstoßspannung	1.2/50 µs	kV	4	
<b>Klemmen</b>				
• Hauptstrombahnen	± Schraube	(Pozidrive) mm	PZ2	PZ1
• Strom- und Ersatzversorgung	Klinge für Schlitzschraube	mm x mm	0.8 x 3.5	
• Leiterquerschnitte Hauptstrombahnen	starr max. / starr (min.)	mm <sup>2</sup>	1 x 25 oder 2 x 16 / (1 x 1.5)	1 x 6 oder 2 x 4 / (1 x 0.95)
• Bereich Leiter für Strom- und Ersatzversorgung	starr max. / (min) flexibel mit Hülse max. / (min)	mm <sup>2</sup> mm <sup>2</sup>	2.5 (0.14) 1.5 (0.25)	
<b>Umgebungsbedingungen</b>				
• Umgebungstemperatur		°C	0 ... +55	
• Relative Feuchte	Lagerung	%	≤ 80	
• Vibration	Amplitude bei 50 Hz (Sinus)	mm	± 0.25	
• Schutzart	(Klemmenbereich)		IP40 (IP20)	
• Schutzklasse	nach DIN EN 61010-1		II	
<b>Versorgung</b>				
• Bemessungssteuerspeisespannung $U_n$		V	230	
• Arbeitsbereich		$xU_n$	0.80 ... 1.20	
• Bemessungsfrequenz		Hz	50	
• Arbeitsbereich Frequenz		Hz	45 ... 65	
• Bemessungsverlustleistung $P_V$		VA	≤ 10	
<b>Messeingang</b>				
• Anschlussart			Direkt	Wandler /5 A
• Spannung $U_n$	Phase/Phase	V	400	
	Phase/N	V	230	
• Arbeitsbereich Spannung	Phase/Phase	V	87 ... 480	
	Phase/N	V	50 ... 276	
• Strom $I_b / I_n$		A	63	5
• Arbeitsbereich Strom	Direktanschluss	A	0.3 ... 76	
	Wandleranschluss	A	-	0,012 ...6
• Wandlerstrom	Primärstrom	A	-	5 .. 5000
	kleinster Eingabeschritt	A	-	5
• Frequenz		Hz	50	
• Arbeitsbereich Frequenz		Hz	45 ... 65	
<b>Überlastbarkeit</b>				
• Spannung $U_n$	dauernd: Phase/Phase	V	480	
	1 Sekunde: Phase/Phase	V	800	
	dauernd: Phase/N	V	276	
	1 Sekunde: Phase/N	V	460	
• Strom $I_b / I_n$	dauernd	A	76	6
	0,5 Sekunden	A	-	110
	10 ms	A	2000	-

(\*) WARNUNG: Der Wert 10 kann bei Stromwandlern (TA) über 1000/5A oder 1000/1A nicht eingesetzt werden.

Data in compliance with 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>Display</b>				
• Connection errors	discernible from phase-sequence indication		ERR	
• Active energy: 1 display, 7 digit + display import or export (arrow)		kWh	000000,0 ... 999999,9	
• Reactive energy: 1 display, 7-digit + display import or export (arrow)		kvarh	000000,0 ... 999999,9	
• Active power: 1 display, 3-digit + display import or export (arrow)		kW or MW	000 ... 999	
• Reactive power: 1 display, 3-digit + display import or export (arrow)		kvar or Mvar	000 ... 999	
• Instantaneous tariff measurement 1 display, 1-digit	for 7KT1 500, 7KT1 501, 7KT1 502, 7KT1 503 for 7KT1 510, 7KT1 511, 7KT1 512 7KT1 513, 7KT1 520, 7KT1 521 for 7KT1 510, 7KT1 511, 7KT1 512, 7KT1 513, 7KT1 520, 7KT1 521		1 1 or 2	
• Display tariff identifier	adjustable in 5 A steps	A /s	- 2	5 ... 5000
• Transformer primary current				
• Display period				
• Storage of setting and energy values			EEPROM	
<b>Measuring accuracy (of nominal values <math>I_n</math> - <math>I_b</math> - <math>U_n</math>)</b>				
• Energy	active acc.to IEC 62053-21 reactive acc.to IEC 62053-23	class 2 class 3	- -	
• Active or reactive power			±2 ... ±4 ±1 digit	
<b>SO interface</b>				
• Terminal output	acc.to IEC 62053-31 for 7KT1 500, (7KT1 501) fixed for 7KT1 502, 7KT1 510, 7KT1 512, 7KT1 520 for direct connection 63 A, adjustable for 7KT1 503, 7KT1 511, 7KT1 513, 7KT1 521 depending on the transformer factor, adjustable	Imp/kWh Imp/kWh Imp/kWh	10 10(*)-1-0.1-0.01-0.001 -	(1) - 10(*)-1-0.1-0.01-0.001
• Pulse duration		ms	125 ±25 ms	
• Minimum interval between 2 pulses		ms	125 ±25 ms	
• Required voltage	min. (max)	V DC	5 ... 30	
• Permissible current	pulse ON min. (max)	mA	5 ... 20	
• Permissible current	pulse OFF min. (max)	mA	0 ... 2	
<b>LAN interface</b>				
• Plug-and-play technology				
• Terminals	only for 7KT1 520, 7KT1 521			±, shielding
<b>Safety acc.to DIN EN 61010-1</b>				
• Degree of pollution			2	
• Overvoltage category			II	
• Operational voltage		V	600	
• Test pulse voltage	1.2/50 µs	kV	4	
<b>Terminals</b>				
• Main current paths	± screw with mark	(Pozidrive) mm	PZ2	PZ1
• Power supply and auxiliary	blade for slotted screw	mm x mm	0.8 x 3.5	
• Conductor cross sections-main current paths	rigid max. / rigid (min.)	mm <sup>2</sup>	1 x 25 or 2 x 16 / (1 x 1.5)	1 x 6 or 2 x 4 / (1 x 0.95)
• Power supply and auxiliary	rigid max. / (min)	mm <sup>2</sup>	2.5 / (0.14)	
• cable section	flexible with sleeve max. (min)	mm <sup>2</sup>	1.5 / (0.25)	
<b>Ambient conditions</b>				
• Ambient temperature		°C	0 ... +55	
• Relative humidity	storage	%	≤ 80	
• Vibration	sinus amplitude at 50 Hz	mm	± 0.25	
• Degree of protection	(terminal area)		IP40 (IP20)	
• Protection class	acc.to DIN EN 61010-1		II	
<b>Supply</b>				
• Rated control supply voltage $U_n$		V	230	
• Operating range		$xU_n$	0.80 ... 1.20	
• Rated frequency		Hz	50	
• Operating range frequency		Hz	45 ... 65	
• Rated power dissipation $P_V$		VA	≤ 10	
<b>Measuring input</b>				
• Type of connection			direct	transformer /5 A
• Voltage $U_n$	phase/phase	V	400	
	phase/N	V	230	
• Operating range voltage	phase/phase	V	87 ... 480	
	phase/N	V	50 ... 276	
• Current $I_b / I_n$		A	63	5
• Operating range current	direct connection	A	0.1 ... 69.3	-
	transformer connection	A	-	0.012 ... 6
• Transformer current	primary current	A	-	5 .. 5000
	smallest input step	A	-	5
• Frequency		Hz	50	
• Operating range frequency		Hz	45 ... 65	
<b>Overload capability</b>				
• Voltage $U_n$	continuous; phase/phase	V	480	
	1 second; phase/phase	V	800	
	continuous; phase/N	V	276	
	1 second; phase/N	V	460	
• Current $I_b / I_n$	continuous	A	76	6
	0,5 seconds	A	-	110
	10 ms	A	2000	-

(\* IMPORTANT: the value 10 should not be used if the current transformer (CT) exceeds 1000/5A or 1000/1A

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	ricognoscibile 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				±, 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

Conforme aux normes DIN EN 61010-1, DIN EN 62053-11, -21, -31

			<b>7KT1 500, 7KT1 502 7KT1 510, 7KT1 512 7KT1 520</b>	<b>7KT1 501, 7KT1 503, 7KT1 511, 7KT1 513, 7KT1 521</b>
<b>Visualisation</b>				
• Erreur de branchement	identifiable par l'indicateur séquence phases		ERR	
• Énergie active: 1 indicateur, 7 chiffres + indication absorbée ou distribuée (flèche)		kWh	000000,0 ... 999999,9	
• Énergie réactive: 1 indicateur, 7 chiffres + indication absorbée ou distribuée (flèche)		kvarh	000000,0 ... 999999,9	
• Puissance active: 1 indicateur, 3 chiffres + indication absorbée ou distribuée (flèche)		kW ou MW	000 ... 999	
• Puissance réactive: 1 indicateur, 3 chiffres + indication absorbée ou distribuée (flèche)		kvar ou Mvar	000 ... 999	
• Tarif actuel	7KT1 500, 7KT1 501, 7KT1 502, 7KT1 503		1	
• Secondaire réducteur	7KT1 510, 7KT1 511, 7KT1 512 7KT1 513, 7KT1 520, 7KT1 521		1 ou 2	
• Détermination du tarif	7KT1 510, 7KT1 511, 7KT1 512, 7KT1 513, 7KT1 520, 7KT1 521		T1 ou T2	
• Primaire du réducteur de courant	sélectionnable par pas de 5 A	A	-	5 ... 5000
• Cycle de visualisation		/s	2	
• Mémorisation des sélections et des valeurs d'énergie			EEPROM	
<b>Précision (des valeurs nominales <math>I_n</math> - <math>I_b</math> - <math>U_n</math>)</b>				
• Énergie	active IEC 62053-21 réactive IEC 62053-23	classe 2 classe 3	- -	
• Puissance active ou réactive			±2 ... ±4 ±1 digit	
<b>Interface S0</b>				
• Sortie	IEC 62053-31 7KT1 500, (7KT1 501) fixe 7KT1 502, 7KT1 510, 7KT1 512, 7KT1 520 pour insertion directe sélectionnable	Imp/kWh Imp/kWh	10 10(*)-1-0.1-0.01-0.001	(1) -
	7KT1 503, 7KT1 511, 7KT1 513, 7KT1 521 pour insertion CT -/5 A sélectionnable	Imp/kWh	-	10(*)-1-0.1-0.01-0.001
• Durée impulsion		ms	125 ±25 ms	
• Pause minimum entre 2 impulsions		ms	125 ±25 ms	
• Tension nécessaire	min. (max.)	V c.c.	5 ... 30	
• Courant permis	impulsion ON min. (max)	mA	5 ... 20	
• Courant permis	impulsion OFF min. (max)	mA	0 ... 2	
<b>Interface LAN</b>				
• Technique Plug and Play	7KT1 520, 7KT1 521			
• Bornes			• ±, blindage	
<b>Sécurité conforme à DIN EN 61010-1</b>				
• Indice de pollution			2	
• Catégorie de surtension				II
• Tension de fonctionnement		V	600	
• Tenue à l'impulsion	1.2/50 µs	kV	4	
<b>Bornes</b>				
• Ampèremétriques	Vis à empreinte ±	(Pozidrive) mm	PZ2	PZ1
• Alimentation et auxiliaire	vis à fente	mm x mm	0.8 x 3.5	
• Section conducteurs ampèremétriques	rigide max. / rigide (min.)	mm <sup>2</sup>	1 x 25 ou 2 x 16 / (1 x 1.5)	1 x 6 ou 2 x 4 / (1 x 0.95)
• Section conducteurs alimentation et auxiliaire	rigide max. / (min.) flexible avec cosse max. / (min.)	mm <sup>2</sup> mm <sup>2</sup>	2.5 / 0.14 1.5 / 0.25	
<b>Conditions ambiantes</b>				
• Température		°C	0 ... +55	
• Humidité relative	stockage	%	≤ 80	
• Vibrations	avec amplitude sinusoïdale à 50 Hz	mm	± 0.25	
• Indice de protection	(bornes)		IP40 (IP20)	
• Indice de protection	DIN EN 61010-1		II	
<b>Alimentation</b>				
• Tension nominale d'alimentation $U_n$		V	230	
• Champ de variation		$xU_n$	0.80 ... 1.20	
• Fréquence nominale		Hz	50	
• Champ de variation		Hz	45 ... 65	
• Puissance absorbée $P_V$		VA	≤ 10	
<b>Entrées de mesure</b>				
• Insertion			directe	CT -/5 A
• Tension $U_n$	phase/phase	V	400	
	phase/N	V	230	
• Champ de tension	phase/phase	V	87 ... 480	
	phase/N	V	50 ... 276	
• Courant $I_b / I_e$		A	63	5
• Champ de courant	direct	A	0.3 ... 76	-
	CT -/5 A	A	-	0.012 ... 6
• Réducteur de courant	primaire	A	-	5 .. 5000
	minimum imp.	A	-	5
• Fréquence		Hz	50	
• Champ de fréquence		Hz	45 ... 65	
<b>Capacité de Surcharge</b>				
• Tension $U_n$	permanent; phase/phase	V	480	
	1 sec.: phase/phase	V	800	
	permanent; phase/N	V	276	
	1 sec.: phase/N	V	460	
• Courant $I_b / I_e$	permanent	A	76	6
	0,5 sec	A	-	110
	10 ms	A	2000	-

(\* ATTENTION: la valeur 10 ne doit pas être utilisée si le transformateur de courant (CT) dépasse 1000/5A ou bien 1000/1A