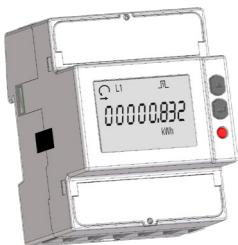


S534-80 S504C-80

Contatore di energia 80A trifase - 80A three phase energy counter



I - MANUALE D'USO

GB - USER MANUAL

Soggetto a modifiche senza preavviso.
Subject to change without prior notice.

ATTENZIONE!

L'installazione, la configurazione del circuito in cui è inserito il dispositivo e la sigillatura dei coprimosetti deve essere eseguita da figure professionalmente qualificate. Togliere la tensione prima di intervenire sullo strumento.

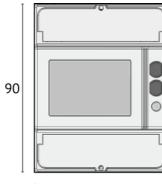
WARNING!

Device installation, wiring configuration and terminal cover sealing must be carried out only by qualified professional staff.

Switch off the voltage before device installation.

DIMENSIONI (mm)

SIZE (mm)

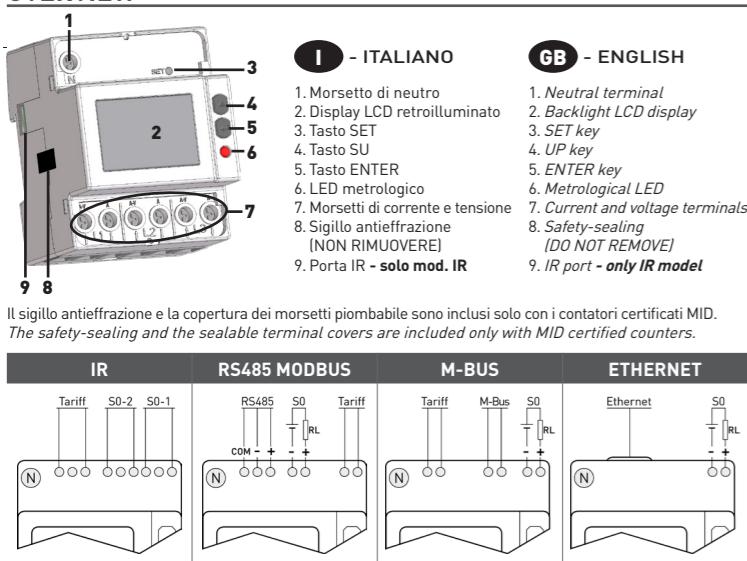


MODELLI DISPONIBILI AVAILABLE MODELS

| Nome Name | Modello/Porta Model/Port | Inserzioni possibili [es. 3.4.3=3fasi 4fili,3corr.] Available wirings [e.g. 3.4.3=3phases,4wires,3curr.] | Ingr. tariffa S0 Tariff in. | Uscite S0 S0 outputs | Cert. MID MID cert. |
|------------------|-----------------------------|---|--------------------------------|-------------------------|------------------------|
| S534-80 | IR | ● ● ● | 1 | 2 | |
| S504C-80-MBU | M-BUS | ● ● ● | 1 | 1 | |
| S504C-80-MOD | RS485 MODBUS | ● | 1 | 1 | |
| S504C-80-ETH | ETHERNET | ● | | 1 | |
| S534-80-MID | IR | ● ● ● | 1 | 2 | ● |
| S504C-80-MBU-MID | M-BUS | ● ● ● | 1 | 1 | ● |
| S504C-80-MOD-MID | RS485 MODBUS | ● | 1 | 1 | ● |
| S504C-80-ETH-MID | ETHERNET | ● | | 1 | ● |

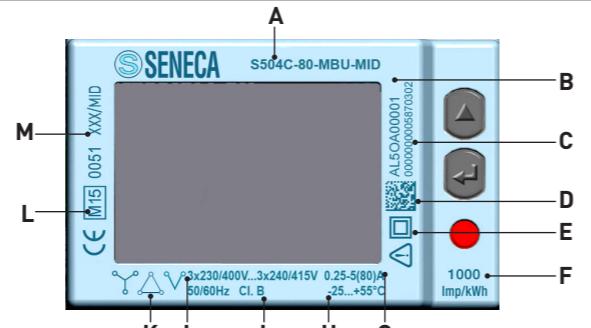
I contatori parziali sono azzerabili su tutti i modelli.
In all device models partial counters are resettable.

PANORAMICA OVERVIEW



Il sigillo antieffrazione e la copertura dei morsetti piombabile sono inclusi solo con i contatori certificati MID.
The safety-sealing and the sealable terminal covers are included only with MID certified counters.

SIMBOLOGIA SUL PANNELLO FRONTALE (ESEMPIO) SYMBOLS ON FRONT PANEL (EXAMPLE)



I - ITALIANO

- A. Nome dispositivo
- B. Numero seriale
- C. Indirizzo secondario per modello M-BUS.
Per modello IR o RS485 MODBUS: campo vuoto
Per modello ETHERNET: indirizzo MAC
- D. Data Matrix
- E. Classe di protezione
- F. Costante d'integrazione (LED metrologico)
- G. Corrente base (corrente massima)
- H. Temperatura di funzionamento
- I. Classe di precisione
- J. Tensione/frequenza nominale
- K. Tipo di collegamento: \triangle =3fas 4fili 3corr., Δ =3fas 3fili 3corr., ∇ =3fas 3fili 2corr.
- L. Simboli di approvazione MID
- M. Certificato di approvazione del tipo

GB - ENGLISH

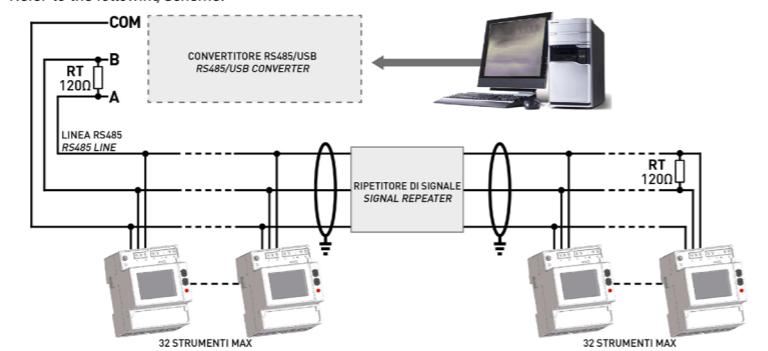
- A. Device name
- B. Serial number
- C. Secondary address for M-BUS model.
For IR or RS485 MODBUS model: field empty
For ETHERNET model: MAC address
- D. Data Matrix
- E. Protection class
- F. Meter constant (metrological LED)
- G. Base current (max current)
- H. Working temperature
- I. Accuracy class
- J. Nominal voltage/frequency
- K. Wiring type: \triangle =3phases 4wires 3curr., Δ =3phases 3wires 3curr., ∇ =3phases 3wires 2curr.
- L. MID approval symbols
- M. Type approval certification

If the device is NO MID version, "CL 1 EN 62053-21" will be shown instead of I, L and M fields.

PORTA RS485 RS485 PORT

La porta RS485 è disponibile a seconda del modello di dispositivo.
The RS485 port is available according to the device model.

La porta RS485 consente la gestione del dispositivo tramite protocollo MODBUS RTU/ASCII. Per il collegamento del dispositivo alla rete, montare una resistenza di terminazione (RT=120...150 Ω) sul lato del convertitore RS485 e sull'ultimo dispositivo connesso alla linea. La massima lunghezza raccomandata per un collegamento è di circa 1200m a 9600 bps. Per lunghezze superiori è consigliabile utilizzare valori più bassi di velocità (bps), cavi con bassa attenuazione o ripetitori di segnale. Fare riferimento allo schema seguente.
The RS485 port allows to manage the device by MODBUS RTU/ASCII protocol. For device network connection, install a terminal resistance (RT=120...150 Ω) on the RS485 converter side and another one on the last device connected on the line. The maximum recommended distance for a connection is 1200m at 9600 bps. For longer distances, lower communication speed (bps), low-attenuation cables or signal repeaters are needed. Refer to the following scheme.

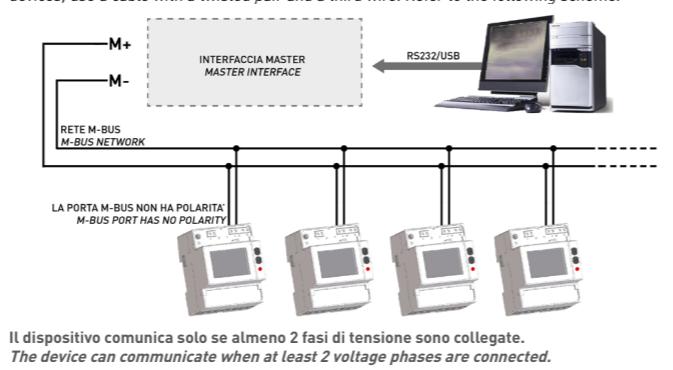


PORTA M-BUS M-BUS PORT

La porta M-BUS è disponibile a seconda del modello di dispositivo.
The M-BUS port is available according to the device model.

La porta M-BUS consente la gestione del dispositivo tramite protocollo M-Bus. Tra il PC e la rete M-Bus è richiesta un'interfaccia master per adattare la porta RS232/USB alla rete. Il numero di dispositivi collegabili dipende dall'interfaccia master utilizzata. Per il collegamento tra i diversi dispositivi, utilizzare un cavo schermato con i due conduttori di segnale "twisted". Fare riferimento allo schema seguente.

The M-BUS port allows to manage the device by M-Bus protocol. A master interface is required between PC and the M-Bus network to adapt RS232/USB port to network. The maximum number of devices to be connected can change according to the used master interface. For the connection among the different devices, use a cable with a twisted pair and a third wire. Refer to the following scheme.



Il dispositivo comunica solo se almeno 2 fasi di tensione sono collegate.
The device can communicate when at least 2 voltage phases are connected.

PORTA ETHERNET ETHERNET PORT

La porta ETHERNET è disponibile a seconda del modello di dispositivo.
The Ethernet port is available according to the instrument device.

Installare la ferrite (in dotazione) sul cavo Ethernet ad un distanza massima di 5cm dal dispositivo. Assicurarsi di far fare un doppio giro al cavo Ethernet all'interno della ferrite. La porta ETHERNET consente la gestione del dispositivo da un qualsiasi PC connesso sulla rete ETHERNET/Internet. Nel campo d'indirizzo web del browser digitare 192.168.1.249, verrà visualizzato il Web server. Web server è stato progettato per due tipi di utenza, Amministratore per l'accesso completo alle funzioni del dispositivo (username: admin, password: admin), e Utente per l'accesso limitato alle funzioni del dispositivo (username: user, password: user).

Install the included ferrite on the Ethernet cable at a maximum 5 cm distance from the device. Make sure that the Ethernet cable is rolled twice inside the ferrite.

The ETHERNET port gives the possibility to manage the device by any PC connected on the ETHERNET/Internet network. In the browser web address field type 192.168.1.249, the device Web server will be displayed. Web server has been designed for two user type, Administrator for full device access (username: admin, password: admin), and User for limited device access (username: user, password: user).

I - ITALIANO

1. LED STATO: stato della comunicazione; LAMPAGGIANTE LENTO=comm. interna ok, ON=accensione o aggiornamento in corso, LAMPAGGIANTE VELOCE=errore comm. interna
2. LED SPD: velocità di comunicazione; OFF=10 Mbps, ON=100 Mbps
3. LED LINK: link attività; ON-link ok, LAMPAGGIANTE=link attività

GB - ENGLISH

1. STATUS LED: communication status; SLOW BLINKING=internal comm. ok, ON-switching on or upgrading in progress, FAST BLINKING=internal comm. error
2. SPD LED: communication speed; OFF=10 Mbps, ON=100 Mbps
3. LINK LED: link activity; ON=link ok, BLINKING=link activity



I - ITALIANO

1. STATUS LED: communication status; SLOW BLINKING=internal comm. ok, ON-switching on or upgrading in progress, FAST BLINKING=internal comm. error
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GB - ENGLISH

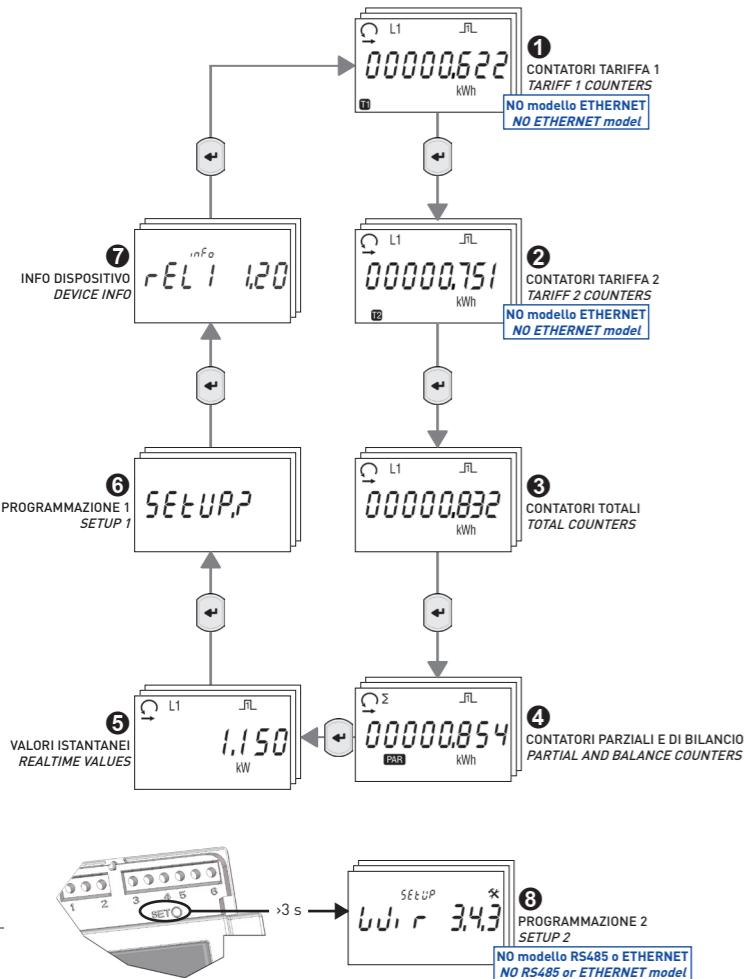
1. STATUS LED: communication status; SLOW BLINKING=internal comm. ok, ON-switching on or upgrading in progress, FAST BLINKING=internal comm. error
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</ol

STRUTTURA PAGINE PAGE STRUCTURE

Possono essere visualizzati fino a 8 gruppi di pagine. Alcuni gruppi potrebbero non essere disponibili a seconda del modello di dispositivo. Per scorrere le pagine all'interno di un gruppo premere ▲.
Up to 8 page loops can be displayed. Some loops can be unavailable according to the device model.
Press ▲ to scroll pages in a loop.

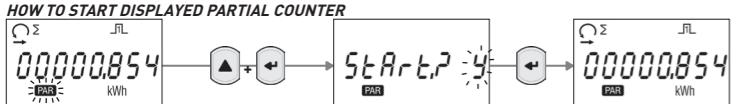


NOTA: in caso di inserzione 3 fili, le pagine con i valori di fase non saranno disponibili.
NOTE: in case of 3 wire connection, pages showing phase values are not available.

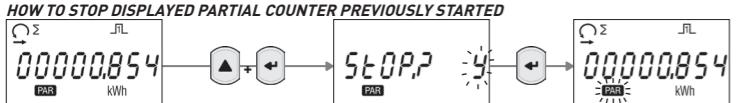
AVVIARE / FERMARE / AZZERARE I CONTATORI PARZIALI HOW TO START / STOP / RESET PARTIAL COUNTERS

Funzione disponibile solo sulle pagine dei contatori parziali.
Feature available only on partial counter pages.

AVVIARE IL CONTATORE PARZIALE VISUALIZZATO HOW TO START DISPLAYED PARTIAL COUNTER



FERMARE IL CONTATORE PARZIALE VISUALIZZATO PRECEDENTEMENTE AVVIATO HOW TO STOP DISPLAYED PARTIAL COUNTER PREVIOUSLY STARTED

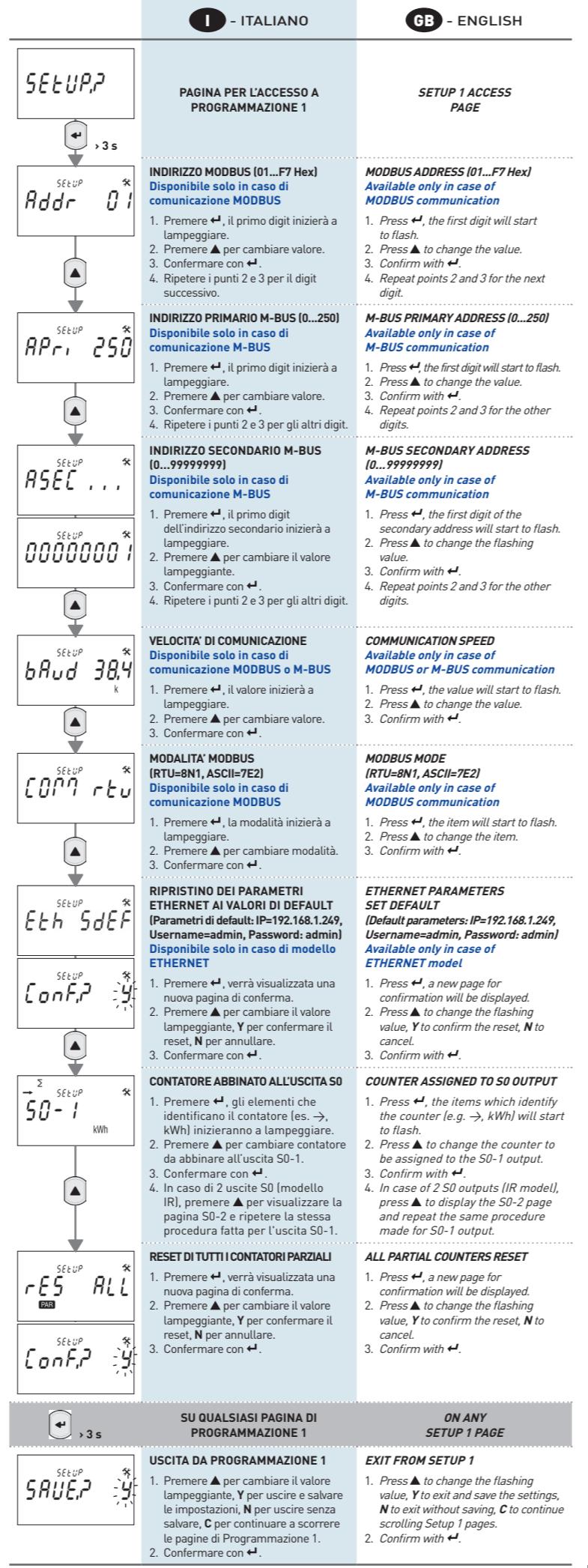


AZZERARE IL CONTATORE PARZIALE VISUALIZZATO HOW TO RESET DISPLAYED PARTIAL COUNTER



Nelle pagine START?, STOP?, RESET?, i valori selezionabili sono: Y=per confermare, N=per annullare. Cambiare valore con ▲.
In START?, STOP?, RESET? pages, selectable items are: Y=to confirm, N=to cancel. To change item, press ▲.

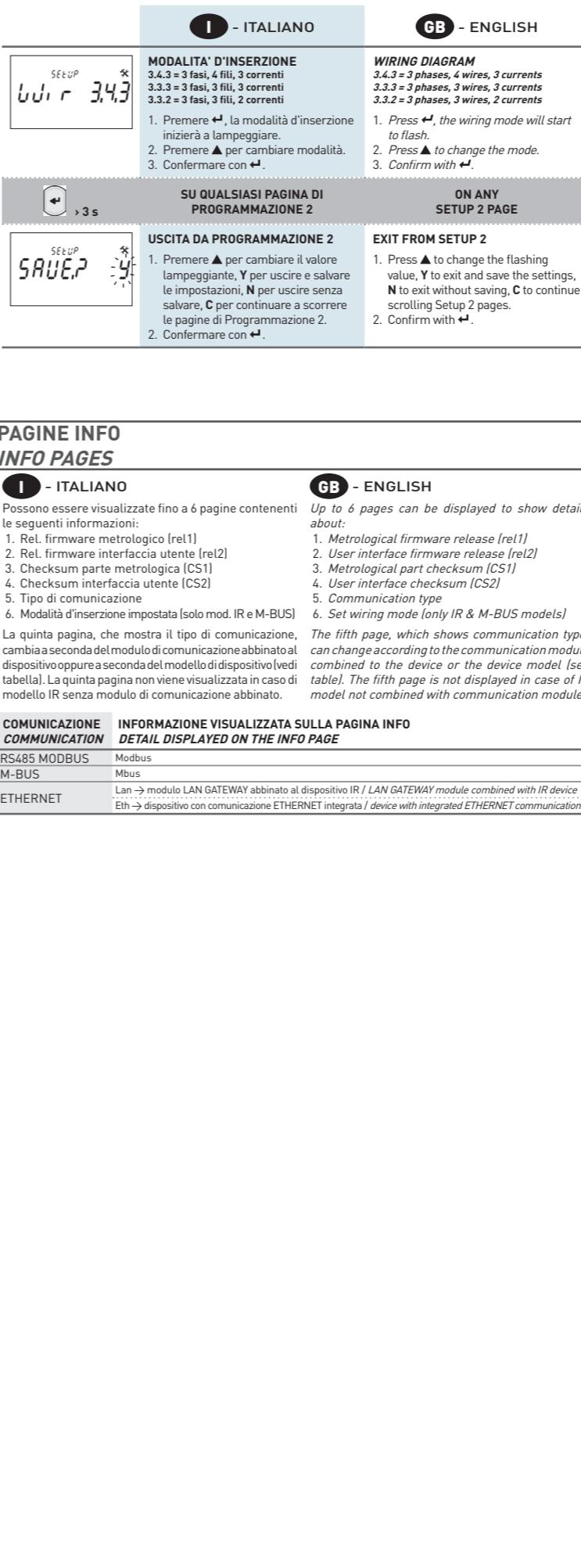
PAGINE PROGRAMMAZIONE 1 SETUP 1 PAGES



PAGINE PROGRAMMAZIONE 2 (solo modelli IR e M-BUS) SETUP 2 PAGES (only IR & M-BUS models)

La Programmazione 2 è disponibile solo per i modelli IR o M-BUS.
Per accedere alle pagine di programmazione 2, tenere premuto per almeno 3 secondi il tasto SET.

Setup 2 is available only for IR or M-BUS models.
To access setup 2 pages, keep SET key pressed for at least 3 seconds.



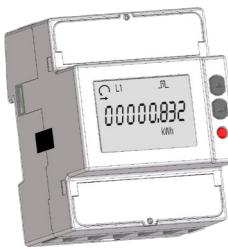
CARATTERISTICHE TECNICHE TECHNICAL FEATURES

Le caratteristiche tecniche possono variare a seconda del modello di dispositivo.
The technical features can change according to the device model.

| I - ITALIANO | GB - ENGLISH |
|---|---|
| GENERALI | GENERAL |
| Custodia conforme alla normativa Morsetti conformi alla normativa | Housing in compliance with standard Terminals in compliance with standard |
| ALIMENTAZIONE | POWER SUPPLY |
| Autosalimentato, tensione derivata dal circuito di misura Range di alimentazione | Power supplied from the voltage circuit Voltage range |
| Consumo massimo (per fase) per modelli IR e M-BUS Consumo massimo (per fase) per modelli RS485 MODBUS e ETHERNET | Max consumption (for each phase) for IR & M-BUS models Max consumption (for each phase) for RS485 MODBUS & ETHERNET |
| Frequenza nominale | Nominal frequency |
| CORRENTE | CURRENT |
| Corrente massima I_{max} Corrente di riferimento I_{ref} [I_{ref}] | Maximum current I_{max} Reference current I_{ref} [I_{ref}] |
| Corrente di transizione I_T | Transitional current I_T |
| Corrente minima I_{min} | Minimum current I_{min} |
| Corrente di avviamento I_{start} | Starting current I_{start} |
| PRECISIONE | ACCURACY |
| Energia attiva classe B conforme alla Energia attiva classe 1 conforme alla Energia reattiva classe 2 conforme alla | Active en. class B in compliance with Active en. class 1 in compliance with Reactive en. class 2 in compliance with |
| COMUNICAZIONE per modello RS485 MODBUS | COMMUNICATION for RS485 MODBUS model |
| Conforme alla normativa Porta isolata Unit load Protocolli Velocità di comunicazione | In compliance with standard Isolated port Unit load Protocols Communication speed |
| COMUNICAZIONE per modello M-BUS | COMMUNICATION for M-BUS model |
| Conforme alla normativa Porta isolata Unit load Protocolli Velocità di comunicazione | In compliance with standard Isolated port Unit load Protocol Communication speed |
| COMUNICAZIONE per modello ETHERNET | COMMUNICATION for ETHERNET model |
| Conforme alla normativa Porta isolata Protocolli Velocità di comunicazione | In compliance with standard Isolated port Protocols Communication speed |
| USCITE S0 | S0 OUTPUTS |
| Optoisolata passiva Valori massimi (conforme alla normativa EN 62053-31) per modello IR | Passive optoisolated Max values (in compliance with EN 62053-31) for IR model |
| Valori massimi (conforme alla normativa EN 62053-31) per mod. RS485 MODBUS, M-BUS, ETHERNET | Max values (in compliance with EN 62053-31) for RS485 MODBUS, M-BUS, ETHERNET mod. |
| Costante del contatore. L'unità di misura (imp/kWh, imp/1000kWh, imp/kVArh, imp/kVAh) cambia a seconda del contatore associato (kWh_{Σ} , $kvarh_{\Sigma}$, $kVAh_{\Sigma}$). | Meter constant. The measuring unit (imp/kWh, imp/1000kWh, imp/kVArh, imp/kVAh) changes according to the assigned counter (kWh_{Σ} , $kvarh_{\Sigma}$, $kVAh_{\Sigma}$). |
| Durata impulso | Pulse length |
| 50 ±2ms ON time min. 30 ±2ms OFF time | 50 ±2ms ON time min. 30 ±2ms OFF time |
| INGRESSO TARIFFA (NO modello ETHERNET) | TARIFF INPUT (NO ETHERNET model) |
| Optoisolato attivo Range di tensione per Tariffa 2 (T2) | Active optoisolated Voltage range for Tariff 2 (T2) |
| LED METROLOGICO | METROLOGICAL LED |
| Costante del contatore | Meter constant |
| DIAMETRO FILO PER MORSETTI | WIRE DIAMETER FOR TERMINALS |
| Morsetti di misura (A & V) Morsetti uscita S0 / tariffa | Measuring terminals (A & V) S0 output / tariff terminals |
| SICUREZZA SECONDO EN 50470-1 | SAFETY ACCORDING TO EN 50470-1 |
| Classe inquinamento Classe di protezione (EN 50470-1) | Pollution degree Protective class (EN 50470-1) |
| Prova tensione d'impulso Prova a tensione AC (EN 50470-3, 7.2) | Pulse voltage test AC voltage test (EN 50470-3, 7.2) |
| Resistenza della custodia alla fiamma | Housing material flame resistance |
| CONDIZIONI AMBIENTALI | ENVIRONMENTAL CONDITIONS |
| Ambiente meccanico Ambiente elettromagnetico Temperatura di funzionamento Temperatura di stoccaggio Umidità relativa (senza condensa) Ampliezza vibrazioni sinusoidali Grado di protezione parte frontale Grado di protezione morsetti | Mechanical environmental Electromagnetic environmental Operating temperature Storage temperature Humidity (without condensation) Sinusoidal vibration amplitude Protection degree - front part Protection degree - terminals |
| Uso interno | INTERNAL USE |

S534-80 S504C-80

80A Dreiphasiger Energiezähler - 80A three phase energy counter



D - BEDIENUNGSANLEITUNG

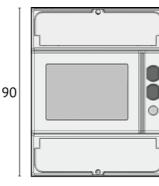
GB - USER MANUAL

Änderungen vorbehalten
Subject to change without prior notice.

ACHTUNG!
Geräte-Installation, Verdrahtung und Klemmenabdeckung dicht dürfen nur durch qualifiziertes Fachpersonal durchgeführt werden. Vor jeder Tätigkeit am Gerät muß die Versorgung getrennt werden.

WARNING!
Device installation, wiring configuration and terminal cover sealing must be carried out only by qualified professional staff.
Switch off the voltage before device installation.

ABMESSUNGEN (mm) SIZE (mm)

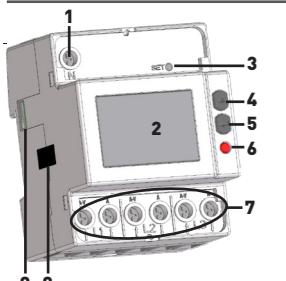


VERFÜGBARE AUSFÜHRUNGEN AVAILABLE MODELS

| Name | Modell/Port Model/Port | Verfügbare Anschlüsse (z.B. 3x3-3Phasen/4Leiter/3Strom) | Tarifeing. Tariff in. | S0 Ausg. S0 outputs | MID Eich. MID cert. |
|------------------|---------------------------|---|--------------------------|------------------------|------------------------|
| S534-80 | IR | ● ● ● | 1 | 2 | |
| S504C-80-MBU | M-BUS | ● ● ● | 1 | 1 | |
| S504C-80-MOD | RS485 MODBUS | ● | 1 | 1 | |
| S504C-80-ETH | ETHERNET | ● | | 1 | |
| S534-80-MID | IR | ● ● ● | 1 | 2 | ● |
| S504C-80-MBU-MID | M-BUS | ● ● ● | 1 | 1 | ● |
| S504C-80-MOD-MID | RS485 MODBUS | ● | 1 | 1 | ● |
| S504C-80-ETH-MID | ETHERNET | ● | | 1 | ● |

In allen Modellen dürfen die Teilzähler rückgesetzt werden.
In all device models partial counters are resettable.

ÜBERSICHT OVERVIEW



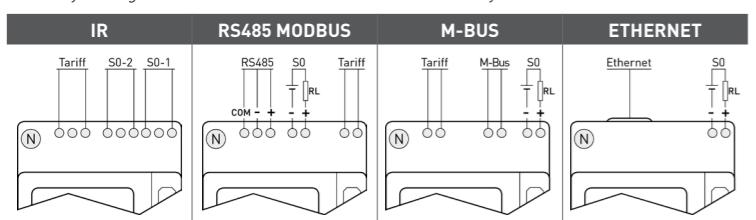
D - DEUTSCH

1. Neutralklemme
2. LCD Display Hintergrundbeleuchtung
3. SET Taste
4. UP Taste
5. ENTER Taste
6. Messtechnische LED
7. Strom- und Spannungsklemmen
8. Sicherheitsaufkleber (DARF NICHT ENTFERNT WERDEN) (DO NOT REMOVE)
9. IR Schnitt. - nur bei IR Modell

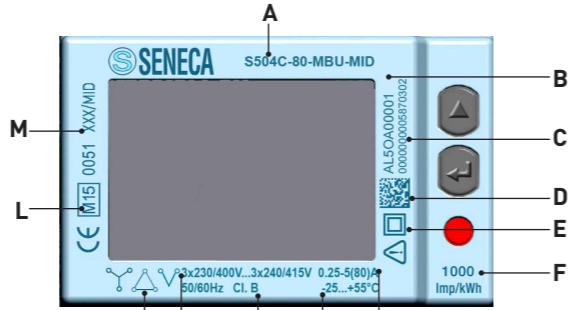
GB - ENGLISH

1. Neutral terminal
2. Backlight LCD display
3. SET key
4. UP key
5. ENTER key
6. Metrological LED
7. Current and voltage terminals
8. Safety-sealing
9. IR port - only IR model

Die Sicherheitsaufkleber und die plombierbare Klemmenabdeckung sind nur mit MID-Zähler enthalten.
The safety-sealing and the sealable terminal covers are included only with MID certified counters.



SYMBOLE AUF FRONTSEITE (BEISPIELE) SYMBOLS ON FRONT PANEL (EXAMPLE)



D - DEUTSCH

- Gerätenamen
- Seriennummer
- Sekundäradresse für M-BUS Modell.
Für RS485 MODBUS Modell: Feld leer
Für ETHERNET Modell: MAC Adresse
- Data Matrix
- Schutzart
- Integrationskonstante (Messtechnische LED)
- Grundstromwert (Max Strom)
- Arbeitstemperaturbereich
- Genaugkeitsklasse
- Nennspannung/Frequenz
- Anschlußbild: △=3Phasen 4Leiter 3Strom,
△=3Phasen 3Leiter 3Strom, ▽=3Phasen 3Leiter 2Strom
- MID Eichung Symbol
- Homologationsnummer

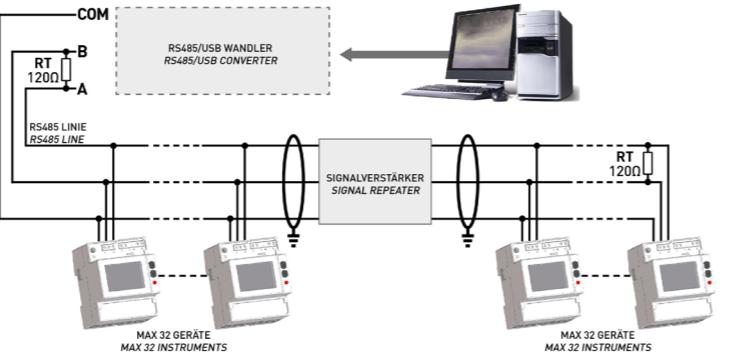
Bei den nicht MID zugelassenen Zählern werden die Felder I, L, und M durch "CL1 EN 62053-21" ersetzt.

RS485 SCHNITTSTELLE RS485 PORT

Die RS485 Schnittstelle ist je nach Gerätetyp vorhanden.
The RS485 port is available according to the device model.

Die RS485 Schnittstelle dient zur lokalen oder Fernverwaltung mit einem MODBUS RTU/ASCII Protokoll. In einem Gerätenetzwerk soll einen Endwiderstand ($R_T=120\ldots 150\Omega$) an der RS485 Wandelseite und einen anderen an dem letzten im Netzangeschlossenen Gerät angeschlossen werden. Die maximale empfohlene Länge ist 1200m auf 9600bps. Bei längeren Abständen werden eine langsamere Kommunikationsgeschwindigkeit (bps), oder Signalverstärker erforderlich. Beziehen Sie sich auf das folgende Bild.

The RS485 port allows to manage the device by MODBUS RTU/ASCII protocol. For device network connection, install a terminal resistance ($R_T=120\ldots 150\Omega$) on the RS485 converter side and another one on the last device connected on the line. The maximum recommended distance for a connection is 1200m at 9600 bps. For longer distances, lower communication speed (bps), low-attenuation cables or signal repeaters are needed. Refer to the following scheme.

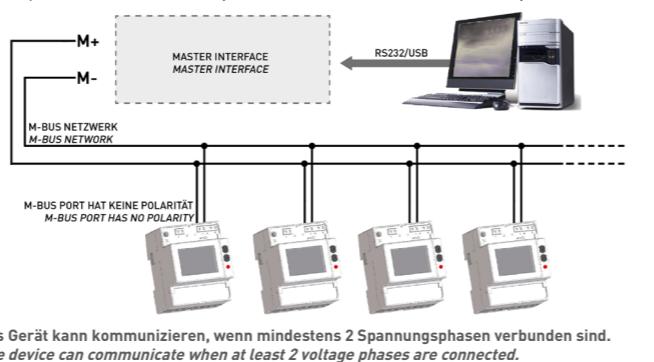


M-BUS SCHNITTSTELLE M-BUS PORT

Die M-BUS Schnittstelle ist je nach Gerätetyp vorhanden.
The M-BUS port is available according to the device model.

Der M-BUS-Schnittstelle erlaubt es, das Gerät mit M-BUS-Protokoll zu verwalten. Zwischen PC und M-Bus Netzwerk ist ein Masterschnittstelle zur Anpassung der RS232/USB zum M-Bus Netzwerk erforderlich. Die Anzahl der anzuschließenden Geräte hängt von der angewendeten Master ab. Die Verdrahtung unter der verschiedenen Module soll mit geschilderten Kabeln durchgeführt werden. Beziehen Sie sich auf das folgende Bild.

The M-BUS port allows to manage the device by M-BUS protocol. A master interface is required between PC and the M-Bus network to adapt RS232/USB port to network. The maximum number of devices to be connected can change according to the used master interface. For the connection among the different devices, use a cable with a twisted pair and a third wire. Refer to the following scheme.



Das Gerät kann kommunizieren, wenn mindestens 2 Spannungsphasen verbunden sind.
The device can communicate when at least 2 voltage phases are connected.

ETHERNET SCHNITTSTELLE ETHERNET PORT

Die ETHERNET Schnittstelle ist je nach Gerätetyp vorhanden.
The ETHERNET port is available according to the instrument device.

Der mitgelieferte Ferrit auf dem Ethernetleiter max 5 cm vom Gerät entfernt einbauen. Achten Sie darauf, dass die Leiter 2 Mal auf den Ferrit gewindet wird.

Die Ethernet Schnittstelle dient zur Verwaltung der Geräte mit allen an einem Ethernet/Internet angeschlossenen Netzwerk. In den Browser Web Feld soll die Adresse 192.168.1.249 angegeben werden, dann wird die Weboberfläche des Gerätes dargestellt. Die Weboberfläche wurde für zwei unterschiedliche Zugangsniveaus entwickelt: Administrator, der den ganzen Zugang zum Gerät hat (Benutzername: admin, Passwort: admin) und Benutzer, der einen beschränkten Zugang zum Gerät hat (Benutzername: user, Passwort: user).

Install the included ferrite on the Ethernet cable at a maximum 5 cm distance from the device. Make sure that the Ethernet cable is rolled twice inside the ferrite.

The ETHERNET port gives the possibility to manage the device by any PC connected on the ETHERNET/Internet network. In the browser web address field type 192.168.1.249, the device Web server will be displayed. Web server has been designed for two user type, Administrator for full device access (username: admin, password: admin), and User for limited device access (username: user, password: user).

D - DEUTSCH

- LED STATUS: Kommunikationsstatus: LANGSAM BLINKEND=interne Kommunikation ok, AN=laufendes Anschließen oder Upgrade, SCHNELL BLINKEND=interne Kommunikationsfehler
- LED SPD: Kommunikationsgeschwindigkeit: AUS=10 Mbps, AN=100 Mbps
- LED LINK: Link activity: AN-link ok, BLINKEND=link activity

GB - ENGLISH

- STATUS LED: communication status; SLOW BLINKING=internal comm. ok, ON-switching on upgrading in progress, FAST BLINKING=internal comm. error
- SPD LED: communication speed; OFF=10 Mbps, ON=100 Mbps
- LINK LED: link activity; ON=link ok, BLINKING=link activity

TARFEINGANG
TARIFF INPUT

Der Tarifeingang ist je nach Gerätetyp vorhanden.
The tariff input is available according to the device model.

Das Tarifeingang wird durch den Anschluß eines externen Gerätes realisiert, dass ein Signal an den Zähler sendet. Das Signal kann am Tarifeingang folgendes bewirken:

- bei einem spannungsfreien Signal (0 V) erhöhen sich die Zählerstände am Tarif 1
- bei einem spannungsführenden Signal (der Wert wird den Technische Daten angegeben) erhöhen sich die Zählerstände am Tarif 2

Bemerkung: Die Gesamtzählerstände erhöhen sich ständig unabhängig vom Status des Tarifeingangs.

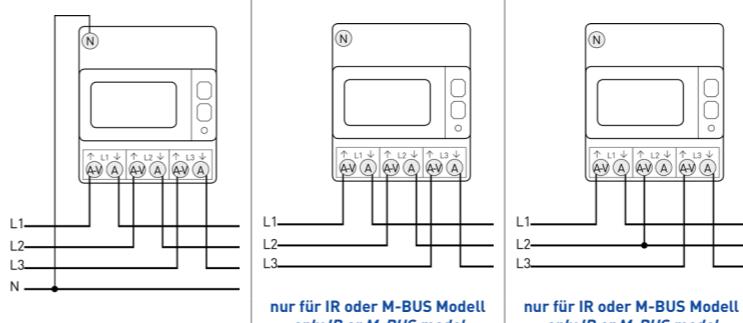
The tariff management is carried out by connecting an external device to tariff input, which is providing a signal to the energy counter. The tariff signal is managed as follows:

- if the tariff input detects a voltage free signal (0 V), the device will increase the tariff 1 counters group
- if the tariff input detects a voltage signal [see Technical features], the device will increase the tariff 2 counters group

Note: Total counters increase continuously regardless from the tariff input status.

ANSCHLUSSBILDER WIRING DIAGRAMS

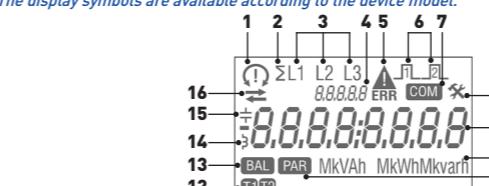
3 PHASEN, 4 LEITER, 3 STROM
3 PHASES, 4 WIRES, 3 CURRENTS
3 PHASEN, 3 LEITER, 3 STROM
3 PHASES, 3 WIRES, 3 CURRENTS
3 PHASEN, 3 LEITER, 2 STROM
3 PHASES, 3 WIRES, 2 CURRENTS



ANZEIGENSYMBOLE SYMBOLS ON DISPLAY

Die Anzeigensymbole sind je nach Gerätetyp vorhanden.

The display symbols are available according to the device model.



D - DEUTSCH

1. Phasenfolge:
richtige (123)
falsche (132)
undefiniert (z.B. eine oder zwei Phasen fehlen)
2. Systemwerte
3. Phasenzahl
4. Identifiziert die Einstell- (SETUP) oder Info (INFO) Seiten
5. Beschädigten metrologischen Parameter (Code: XX). Der Zähler ist unnutzbar und soll sofort an der Hersteller retourniert werden
6. Status des aktiven S0 Ausgangs S0-1 / S0-2
7. Laufende Kommunikation
8. Einstellseite
9. Hauptanzeigefeld
10. Messeneinheitsfeld
11. Telzählerwerte. Blinkend-Zähler gestoppt
12. Zählerwert der Tarif 1 oder 2
13. Symmetrischer Zählerwert
14. Induktivwert
15. Kapazitivwert
16. Bezugener (→), gelieferter (←) Leistungs- oder Energiewert

GB - ENGLISH

1. Phase sequence:
correct (123)
wrong (132)
not defined (e.g. one or more phases are missing)
2. System value
3. Value phase number
4. Identify the Setup page (SETUP) or Info page (INFO)
5. Metrological parameters corrupted (Code: XX). Useless counter, to be returned to the Manufacturer
6. S0-1 / S0-2 output active status
7. Communication active status
8. Setup page
9. Main area
10. Measuring unit area
11. Partial counter value. Flashing=stopped counter
12. Tariff 1 or 2 tariff counter value
13. Symmetric counter value
14. Inductive value
15. Capacitive value
16. Imported (→), exported (←) energy or power value

MESSUNGEN MEASUREMENTS

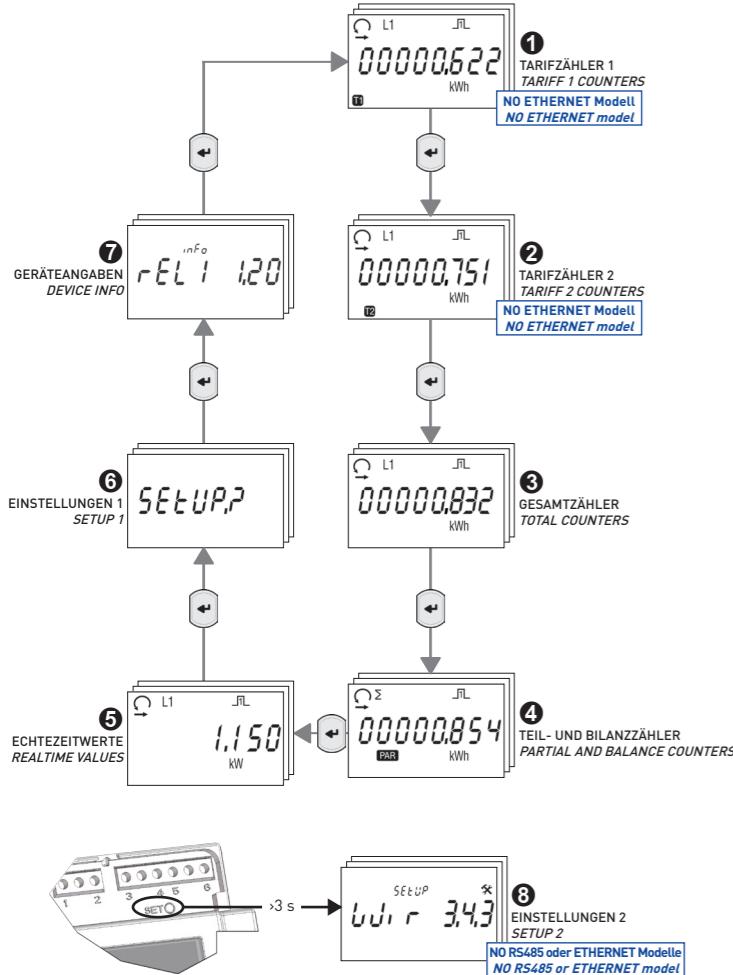
Die Parameter sind je nach Gerätetyp vorhanden.

The parameters are available according to the device model.

| SYMBOL | SYMBOL | MESSINHEIT MEASURE UNIT | ANZEIGE DISPLAY | PORT |
|--|---|----------------------------|--------------------|------|
| ECHTZEITWERTE INSTANTANEOUS VALUES | | | | |
| Spannung (Phase-Phase) | V ₁ , V ₂ , V ₃ | V | | • |
| Voltage | V ₁₂ , V ₂₃ , V ₃₁ | V | | • |
| Linie voltage | | | | |
| Strom | I ₁ , I ₂ , I ₃ , IN | A | | ■ |
| Current | | | | |
| Leistungsfaktor | P _{F1} , P _{F2} , P _{F3} | | | • |
| Scheinleistung | S ₁ , S ₂ , S ₃ | kVA | ■ | ■ |
| Wirkleistung | P ₁ , P ₂ , P ₃ | kW | ■ | ■ |
| Active power | | | | |
| Blindeleistung | Q ₁ , Q ₂ , Q ₃ | kvar | ■ | ■ |
| Reactive power | | | | |
| Frequenz | f | Hz | | • |
| Phasenfolge | CW / CCW | | • | • |
| Leistungrichtung | → | | • | |
| Power direction | ← | | | |
| GESPEICHERTENANGABEN RECORDED DATA | | | | |
| Gesamtwerknergie | Σ L1, L2, L3 | kWh | ■ | ■ |
| Total active energy | | | | |
| Gesamtbindleistung ind. und kap. | Σ L1, L2, L3 | kvarh | | |

ANZEIGE REIHENFOLGE PAGE STRUCTURE

Bis zu 8 Seitengruppe können angezeigt werden. Einige Gruppen können je nach Gerätetyp nicht vorhanden sein. Mit der Taste **▲** werden die Seiten einer Gruppe geblättert.
Up to 8 page loops can be displayed. Some loops can be unavailable according to the device model.
Press **▲** to scroll pages in a loop.



ANMERKUNG: bei einer 3-Leiter Anschluss werden die Anzeigesichten der Phasenwerte abwesend sein.
NOTE: in case of 3 wire connection, pages showing phase values are not available.

TEILZÄHLER STARTEN/SPERREN/RÜCKSETZEN HOW TO START / STOP / RESET PARTIAL COUNTERS

Die Funktion ist nur bei der Teiltäleranzeige verfügbar.
Feature available only on partial counter pages.

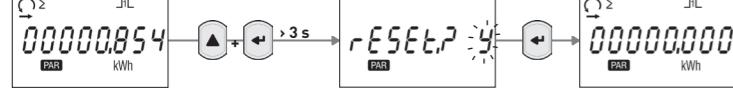
DEN ANGEZEIGTEN TEILZÄHLER STARTEN HOW TO START DISPLAYED PARTIAL COUNTER



SPERREN DER FRÜHER GESTARTETEN TEILZÄHLER HOW TO STOP DISPLAYED PARTIAL COUNTER PREVIOUSLY STARTED



DEN ANGEZEIGTEN TEILZÄHLER RÜCKSETZEN HOW TO RESET DISPLAYED PARTIAL COUNTER

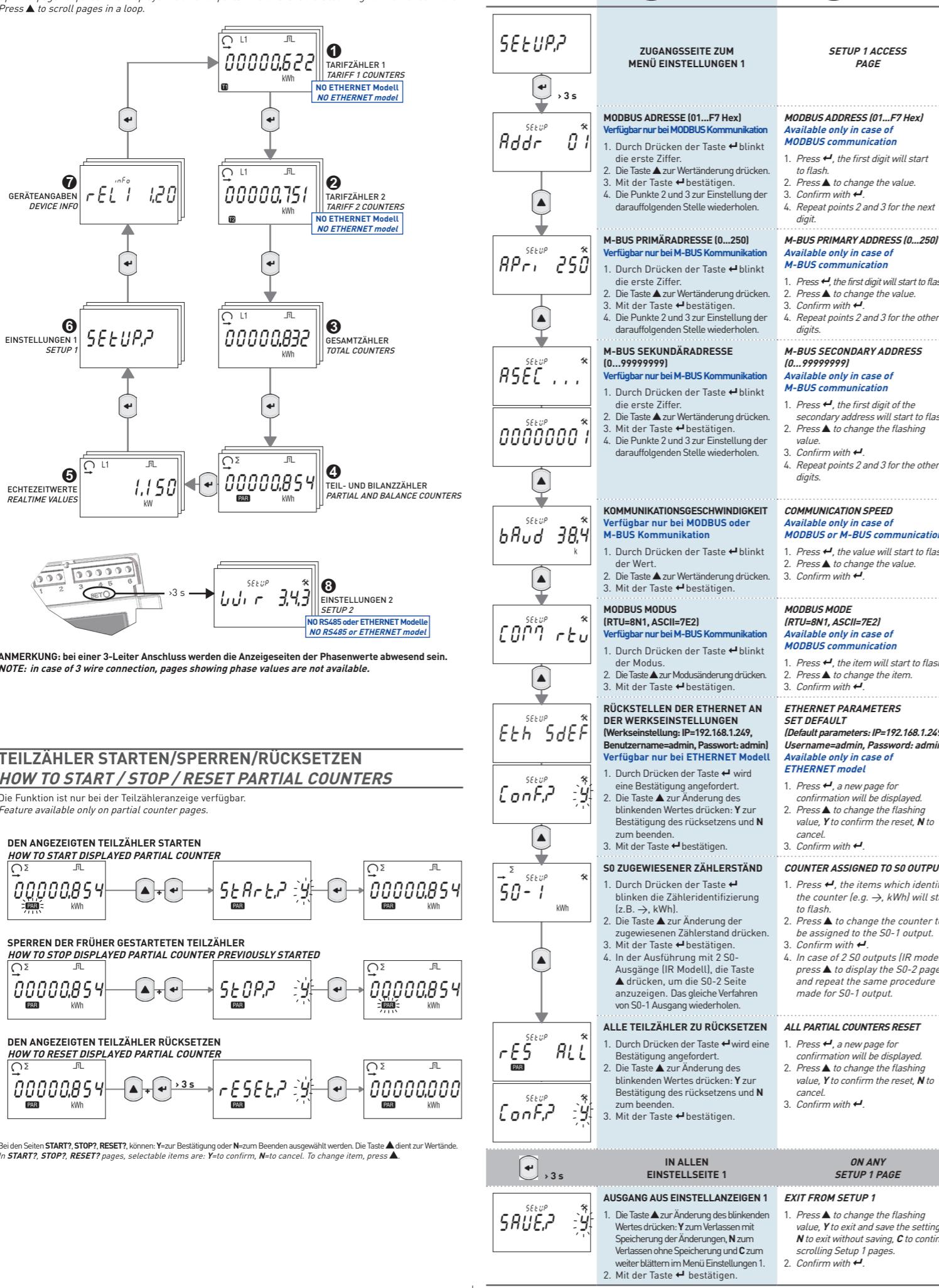


Bei den Seiten **START?**, **STOP?**, **RESET?**, können: **Y**=zur Bestätigung oder **N**=zum Beenden ausgewählt werden. Die Taste **▲** dient zur Wertänderung.
In **START?**, **STOP?**, **RESET?** pages, selectable items are: **Y**=to confirm, **N**=to cancel. To change item, press **▲**.

EINSTELLSEITEN 1 SETUP 1 PAGES

D - DEUTSCH

GB - ENGLISH



EINSTELLSEITEN 2 (nur bei IR und M-BUS Modelle) SETUP 2 PAGES (only IR & M-BUS models)

Einstellseiten 2 sind verfügbar nur bei IR und M-BUS Modelle.
Die Taste SET mindestens 3 s drücken, um das Menü Einstellungen 2 aufzurufen.

Setup 2 is available only for IR and M-BUS models.
To access setup 2 pages, keep SET key pressed for at least 3 seconds.

D - DEUTSCH

GB - ENGLISH



TECHNISCHE EIGENSCHAFTEN TECHNICAL FEATURES

Die technischen Eigenschaften ändern sich je nach Gerätetyp.
The technical features can change according to the device model.

D - DEUTSCH

GB - ENGLISH

| ALLGEMEIN | GENERAL |
|--|---|
| Gehäuse gemäß Richtlinie | Housing in compliance with standard |
| Klemmen gemäß Richtlinie | Terminals in compliance with standard |
| HILFSSPANNUNG | POWER SUPPLY |
| Hilfsspannung wird vom Messkreis aufgenommen | Power supplied from the voltage circuit |
| Hilfsspannungsbereich | Voltage range |
| Max Verbrauch (je Phase) für IR und M-BUS Modelle | Max consumption (for each phase) for IR & M-BUS models |
| Max Verbrauch (je Phase) für RS485 MODBUS und ETHERNET Modelle | Max consumption (for each phase) for RS485 MODBUS & ETHERNET models |
| Nennfrequenz | Nominal frequency |
| STROM | CURRENT |
| Maximalstrom I_{max} | Maximum current I_{max} |
| Bezugstrom I_{ref} [A] | Reference current I_{ref} [A] |
| Übergangsstrom I_c | Transitional current I_c |
| Minimalstrom I_{min} | Minimum current I_{min} |
| Einschaltstrom I_{start} | Starting current I_{start} |
| GENAUIGKEIT | ACCURACY |
| Wirkenergie Klasse B gemäß | Active en. class B in compliance with |
| Wirkenergie Klasse 1 gemäß | Active en. class 1 in compliance with |
| Blindenergie Klasse 2 gemäß | Reactive en. class 2 in compliance with |
| KOMMUNIKATION für RS485 MODBUS Modell | COMMUNICATION for RS485 MODBUS model |
| Gemäß | In compliance with standard |
| Isolierteschnittstelle | RS485 |
| Unit load | 1/8 |
| Protokolle | MODBUS RTU/ASCII |
| Kommunikationsgeschwindigkeit | Communication speed |
| KOMMUNIKATION für M-BUS Modell | COMMUNICATION for M-BUS model |
| Gemäß | In compliance with standard |
| Isolierteschnittstelle | M-BUS |
| Unit load | 1 |
| Protokolle | M-BUS |
| Kommunikationsgeschwindigkeit | Communication speed |
| KOMMUNIKATION für ETHERNET Modell | COMMUNICATION for ETHERNET model |
| Gemäß | In compliance with standard |
| Isolierteschnittstelle | IEEE 802.3 |
| Unit load | - |
| Protokolle | MODBUS TCP, HTTP, NTP, DHCP |
| Kommunikationsgeschwindigkeit | Communication speed |
| S0 AUSGÄNGE | S0 OUTPUTS |
| Passivoptoisolierte | Passive optoisolated |
| Max Werte (gemäß der Richtlinie EN 62053-31) für IR Modell | Max values (in compliance with EN 62053-31) for IR model |
| Max Werte (gemäß der Richtlinie EN 62053-31) für RS485 MODBUS, M-BUS, ETHERNET Modell | Max values (in compliance with EN 62053-31) for RS485 MODBUS, M-BUS, ETHERNET mod |
| Zählerkonstante. Die Messeinheit (imp/kWh, imp/kvarh, imp/kVAh) ändert sich entsprechend der zugeordneten Zähler (kWh, kvarh, kVAh). | Meter constant. The measuring unit (imp/kWh, imp/kvarh, imp/kVAh) changes according to the assigned counter (kWh, kvarh, kVAh). |
| Impulsdauer | Pulse length |
| | 50 ±2ms ON time min. 30 ±2ms OFF time |
| TARIFEINGANG (NO ETHERNET Modell) | TARIFF INPUT (NO ETHERNET model) |
| Aktivoptoisierte | Active optoisolated |
| Hilfsspannungsbereich für Tarif 2 (T2) | Voltage range for Tariff 2 (T2) |
| MESSTECHNISCHE PRÜF-LED | METROLOGICAL LED |
| Zählerkonstante | Meter constant |
| ANSCHLIESSBARER LEITER | WIRE DIAMETER FOR TERMINALS |
| Messingänge (A & V) | Measuring terminals (A & V) |
| S0 / Tarifausgänge | S0 output / tariff terminals |
| SICHERHEIT GEMÄß EN 50470-1 | SAFETY ACCORDING TO EN 50470-1 |
| Verschmutzungsgrad | Pollution degree |
| Schutzklasse (EN 50470-1) | Protective class (EN 50470-1) |
| Impulsspannungsprüfung | Pulse voltage test |
| AC Spannungsprüfung (EN 50470-3, 7.2) | AC voltage test (EN 50470-3, 7.2) |
| Gehäuse Flammbeständigkeit | Housing material flame resistance |
| UMGEBUNGSBEDINGUNGEN | ENVIRONMENTAL CONDITIONS |
| Mechanische Umgebungsbedingungen | Mechanical environmental |
| Elektromagnetische Umgebungsbedingungen | Electromagnetic environmental |
| Betriebstemperaturbereich | Operating temperature |
| Lagertemperaturbereich | Storage temperature |
| Relative Luftfeuchtigkeit (ohne Kondensation) | Humidity (without condensation) |
| Sinusförmiger Vibrationsumfang | Sinusoidal vibration amplitude |
| Schutzgrad – Frontseite (gewährleistet nur bei Installation in einem Schaltschrank mit mindestens Schutzart IP51) | Protection degree - frontpart (granted only in case of installation in a cabinet with at least IP51 protection degree) |
| Klemmenschutzart | Protection degree - terminals |
| INTERNE ANWENDUNG | INTERNAL USE |
| | - |