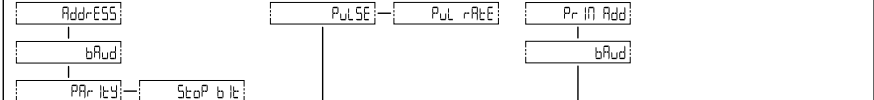
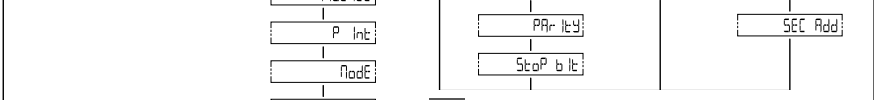
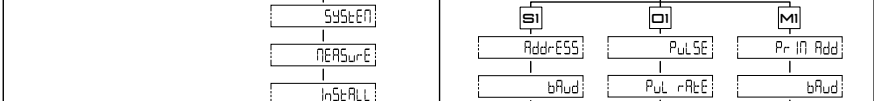
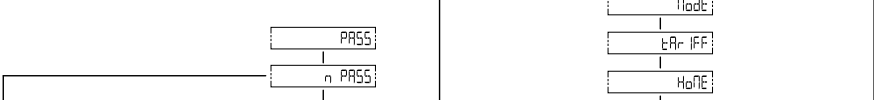
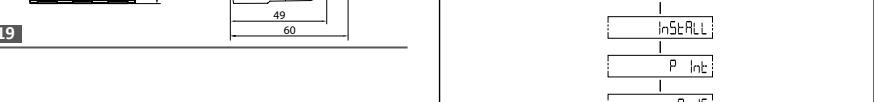
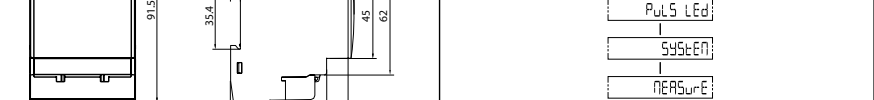
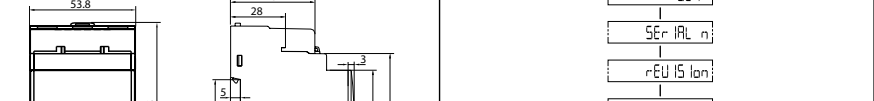
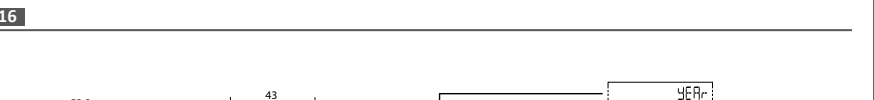
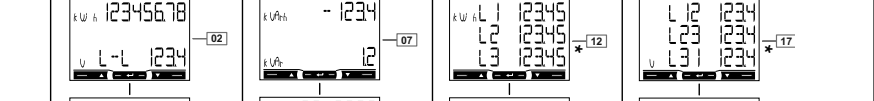
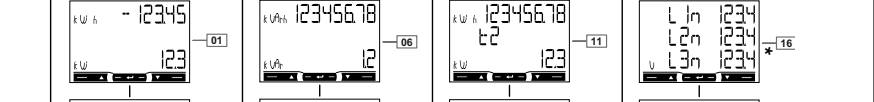
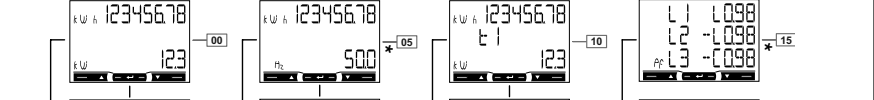
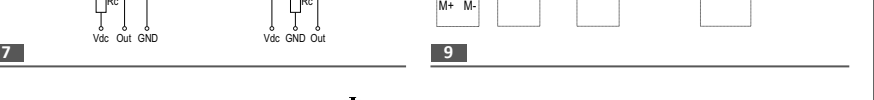
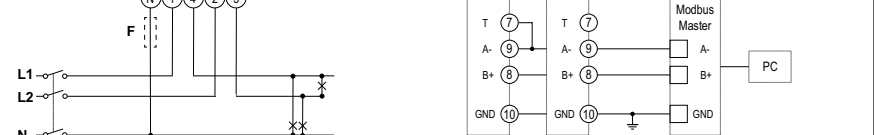
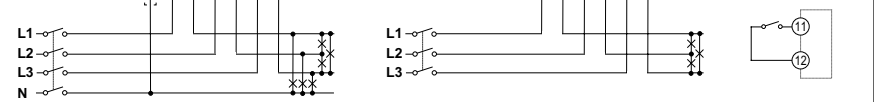
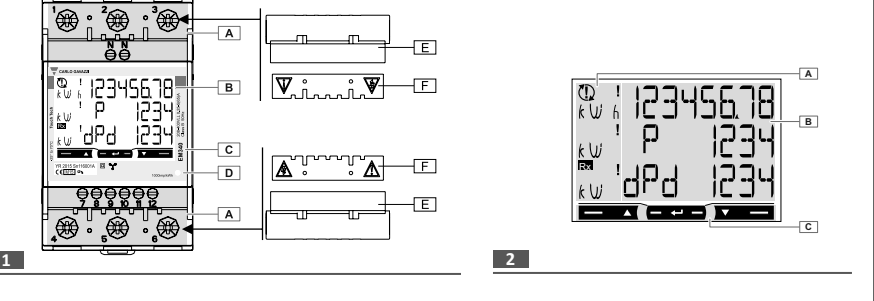


EM340



GENERAL WARNINGS

DANGER: Live parts. Heart attack, burns and other injuries. Disconnect the power supply and load before installing the analyzer. Protect terminals with covers...

These instructions are an integral part of the product. They should be consulted for all situations tied to installation and use. They should be kept with every copy of operators, in a clean place and in good conditions.

Important connection note: Before connecting any input/output wire, the protection cover (Fig. 1, F) must be correctly installed. The metallic part of the wire or ferrule must be completely inserted into the terminal.

Code key (analyzer side) EM340-DIN: AVX, 208-400 V L-L ac, 5(6)S A, direct connection. Three or four-wire three-phase current system, two-phase current system, 3-wire.

Product (Fig. 1) Description: A Current and communication connection terminals. B Backlit LCD display with sensitive touch screen areas. C Model, serial number and serial number. D LED.

Display (Fig. 2) Description: A Unit of measure and signal area. B Incorrect voltage connections. C Specific to one phase, incorrect current direction. D Specific to one phase, incorrect voltage direction. E Version S1 only. Modbus command correctly received. F Version S1 only. Modbus command correctly sent to master.

In case you want to mount the sealing terminal caps (Fig. 1 E) ricordarsi di bloccare con l'apposita cava di sigillatura.

Connection diagrams: Fig. 3 Three-phase system, 4-wire. 315 mA fuse (F), if required by local law. Fig. 4 Three-phase system, 3-wire. Fig. 5 Two-phase system, 3-wire. 315 mA fuse (F), if required by local law.

Fig. 6 Digital input. Open contact + tariff 1, closed contact + tariff 2. Fig. 7 Pulse output (two possible connections). Vdc: external voltage (direct current). Usc: open collector (transistor PNP open collector).

Fig. 8 RS485 Modbus with Master: RS485 Modbus with Master. Note: additional instruments with RS485 are connected in parallel. The serial output must only be terminated on the same bus.

Connection check: The analyzer checks correct connections and correct signals any faults. The check can be disabled using the install, parameter, see Parametri menu (Fig. 17).

Initial assumptions: The check is based on some initial assumptions on the system to be measured. Specifically, it is assumed that each system phase is characterized by: a load with PF=0.766 (<40°) power factor if inductive or PF=0.996 (>5°) if capacitive.

Menu map (Fig. 10): A Measurement menu. B Parameter menu. C Information menu. The pages display information and set parameters without having to enter a password.

Commands: Operazioni, Visualizzare la pagina successiva, Visualizzare la pagina precedente, Diminuire il valore di un parametro, Usare dal menu parametri, Uscire dal menu informazioni, Conferma a valore, Conferma a valore.

Operazioni: Visualizzare la pagina successiva (Fig. 11), Visualizzare la pagina precedente (Fig. 12), Diminuire il valore di un parametro (Fig. 13), Usare dal menu parametri (Fig. 13 pagina End), Uscire dal menu informazioni (Fig. 13 pagina End), Conferma a valore (Fig. 14), Conferma a valore (Fig. 14).

Setting a parameter (Fig. 15): Procedure example: how to set PInt=24. NOTE: the value displayed on the screen is the current one. Settings are applied when the value is confirmed.

Measurement menu (Fig. 16) NOTE: ** only displayed if full display mode is set (Mode = Full).

General measurement pages: Page Description, 00 Total imported active energy**, 01 Total exported active energy**, 02 Total active power.

Single phase measurement pages: NOTE: the phase measurement pages are defined on the type of system analyzed. Page Description, 12 Imported active energy, 13 Apparent power, 14 Imported reactive energy.

Measurement faults: If measured signal exceeds the admitted analyzer limits, a specific message appears: EEE blinking, the measured value is out of limits.

Parameter menu (Fig. 17): Shared pages: Code Description, PASS P1 Insertion password corrente, nPASS P2 Modifica password, SYSTEM P3 Tipo di sistema.

Installation and operation: Code Description, INSTALL P7 Connection check, PInt P8 Average power calculation interval (minutes), MODE P9 Display mode.

Tariff and Home: Code Description, TARIFF P10 Tariff management, HOME P11 Measurement page displayed when turned on and after 120 seconds of display (only X option).

ESet and End: Code Description, ESET P17 Enable energy tariff, maximum requested power, PInt P18 Return to the initial measurement page.

Pages specific to the S1 version: Page Code Description, Address P14 Indirizzo Modbus, BAUD P15 Baud rate (kbps), PARITY P16 Parità, STOP bit P16-2 Only if no parity. Stop bit.

Pages specific to the O1 version: Page Code Description, PULSE P12 Duration of the pulse (ON time, milliseconds), PULRAE P12-2 Pulse weight. Multiples of 100 impulses/kWh.

Pages specific to the M1 version: Page Code Description, Pr Add P13 Indirizzo primario M-Bus, BAUD P15 Baud rate (kbps), STOP bit P16-2 Stop bit.

Information menu (Fig. 18): Shared pages: Page Code Description, INFO 1 Year of manufacture, SERIAL n INFO 2 Serial number, REVISION INFO 3 Revisione firmware.

Pages specific to the S1 version: Page Code Description, Address P14 Indirizzo Modbus, BAUD P15 Baud rate, PARITY P16 Parità, STOP bit P16-2 Stop bit.

Pages specific to the O1 version: Page Code Description, PULSE P12 Durata dell'impulso, PULRAE P12-2 Peso dell'impulso.

Pages specific to the M1 version: Page Code Description, Pr Add P13 Indirizzo primario M-Bus, BAUD P15 Baud rate, STOP bit P16-2 Stop bit.

AVVERTENZE GENERALI

PERICOLO: Parti sotto tensione. Arresto cardiaco, bruciori e altre lesioni. Scollegare l'alimentazione e il carico prima di installare l'analizzatore. Proteggere i morsetti con le coperture.

Queste istruzioni sono parte integrante del prodotto. Devono essere consultate per tutte le situazioni legate all'installazione e all'uso. Devono essere conservate in modo che siano accessibili agli operatori, in un luogo pulito e mantenuto in buone condizioni.

Nota importante sulle connessioni: Installare correttamente la placchetta di protezione morsetti (Fig. 1, F) prima di collegare qualsiasi filo di ingresso/uscita.

Legenda codice (lato analizzatore) EM340-DIN: AVX, 208-400 V ca (tensione trifase), 5(6)S A, connessione diretta. Sistema per corrente trifase, 3 o 4 fili sistema per corrente bifase, 3 fili.

Prodotto (Fig. 1) Descrizione: A Morsetti per collegamenti corrente e comunicazione. B Display LCD retroilluminato con aree a comando touch.

Display (Fig. 2) Descrizione: A Area unita di misura e segnalazione. B Unità di misurazione di tensione errati. C Specifico di una fase, verso della corrente errato. D Specifico di una fase, collezione di tensione errato.

Nel caso si desideri montare le coperture sigillabili (Fig. 1 E) ricordarsi di bloccare con l'apposita cava di sigillatura.

Schema di collegamento: Fig. 3 Sistema trifase, 4 fili. Fusibile (F) da 315 mA, se previsto dalle leggi locali. Fig. 4 Sistema trifase, 3 fili. Fusibile (F) da 315 mA, se previsto dalle leggi locali.

Fig. 5 Due fasi sistema, 3-wire. Fusibile (F) da 315 mA, se previsto dalle leggi locali. Fig. 6 Ingresso digitale. Contatto aperto + tariffa 1, contatto chiuso + tariffa 2.

Fig. 8 RS485 Modbus with Master: RS485 Modbus with Master. Nota: ulteriori strumenti provvisti di RS485 sono collegati in parallelo. La terminazione dell'uscita seriale deve essere eseguita solo sull'ultimo strumento della rete collegando i morsetti A+ e T. Per connessioni più lunghe di 1000 m utilizzare un ripetitore di segnale.

Controllo dei collegamenti: L'analizzatore controlla che i collegamenti effettuati siano corretti e segnala eventuali anomalie. È possibile disabilitare il controllo tramite il parametro Install, vedi Menu Parametri (Fig. 17).

Struttura del menu (Fig. 10): A Menu misure. B Menu parametri. C Menu informazioni. Le pagine sono caratterizzate dall'unità di misura di riferimento.

Comandi: Operazioni, Visualizzare la pagina successiva, Visualizzare la pagina precedente, Diminuire il valore di un parametro, Usare dal menu parametri, Uscire dal menu informazioni, Conferma a valore, Conferma a valore.

Operazioni: Visualizzare la pagina successiva (Fig. 11), Visualizzare la pagina precedente (Fig. 12), Diminuire il valore di un parametro (Fig. 13), Usare dal menu parametri (Fig. 13 pagina End), Uscire dal menu informazioni (Fig. 13 pagina End), Conferma a valore (Fig. 14), Conferma a valore (Fig. 14).

Impostare un parametro (Fig. 15): Procedura di esempio: come impostare PInt=24. NOTE: il valore visualizzato è quello attuale. L'impostazione è effettiva quando il valore è in fase di modifica se compare la scritta HOME.

Menu misure (Fig. 16) NOTE: ** visualizzato solo se è impostata la modalità completa del display (Mode = Full).

General measurement pages: Page Description, 00 Totale energia attiva importata**, 01 Totale energia attiva esportata**, 02 Potenza attiva totale.

Single phase measurement pages: NOTE: la misura di singola fase è definita in base al tipo di sistema analizzato. Page Description, 12 Energia attiva importata, 13 Potenza apparente, 14 Energia reattiva importata.

Anomalie di misura: Se il segnale misurato supera i limiti ammessi dall'analizzatore, compare un messaggio dedicato: EEE lampeggiante, il valore misurato è fuori dai limiti.

Menu parametri (Fig. 17): Pagina codice Descrizione, PASS P1 Inserimento password corrente, nPASS P2 Modifica password, SYSTEM P3 Tipo di sistema.

Installazione e operazione: Pagina codice Descrizione, INSTALL P7 Controllo collegamenti, PInt P8 Intervallo per il calcolo della potenza media (minuti), MODE P9 Modalità display.

Tariffa e Home: Pagina codice Descrizione, TARIFF P10 Gestione delle tariffe, HOME P11 Pagina di misura visualizzata all'accensione e dopo 120 secondi di inattività (solo opzione X).

ESet e End: Pagina codice Descrizione, ESET P17 Abilitazione azzeramento tariffe di energia, potenza massima richiesta e energia attiva e reattiva parziale (queste ultime trasmesse solo via porta seriale), End P18 Torna alla pagina iniziale delle misure.

Pagine specifiche della versione S1: Pagina codice Descrizione, Address P14 Indirizzo Modbus, BAUD P15 Baud rate (kbps), PARITY P16 Parità, STOP bit P16-2 Solo se no parity. Bit di stop.

Pagine specifiche della versione O1: Pagina codice Descrizione, PULSE P12 Durata dell'impulso (tempo di ON, millisecondi), PULRAE P12-2 Peso dell'impulso. Multipli di 100 impulsi/kWh.

Pagine specifiche della versione M1: Pagina codice Descrizione, Pr Add P13 Indirizzo primario M-Bus, BAUD P15 Baud rate (kbps), STOP bit P16-2 Stop bit.

Menu informazioni (Fig. 18): Pagina codice Descrizione, YEAR P1 Anno di produzione, SERIAL n INFO 2 Numero di serie, REVISIONE INFO 3 Revisione firmware.

Pagine specifiche della versione S1: Pagina codice Descrizione, Address P14 Indirizzo Modbus, BAUD P15 Baud rate, PARITY P16 Parità, STOP bit P16-2 Stop bit.

Pagine specifiche della versione O1: Pagina codice Descrizione, PULSE P12 Durata dell'impulso, PULRAE P12-2 Peso dell'impulso.

Pagine specifiche della versione M1: Pagina codice Descrizione, Pr Add P13 Indirizzo primario M-Bus, BAUD P15 Baud rate, STOP bit P16-2 Stop bit.

ALLGEMEINE SICHERHEITSHINWEISE

GEFÄHR: Spannungsführende Teile. Gefahr von Herztod, Verbrennungen und sonstigen Verletzungen. Vor Beginn der Installation des Energiemanalyzators elektrische Versorgung und Last trennen.

Wichtiger Anschlusshinweis: Vor dem Anschluss der Ein-/Ausgänge, muss die Schutzabdeckung (Abb. 1, F) ordnungsgemäß installiert sein.

Bestellcode (Energieanalyzator) EM340-DIN: AVX, 208-400 V ca (tension trifase), 5(6)S A, Direktanschluss. Dreiphasensystem, 3 oder 4 Leiter. Zweiphasensystem, 3 Leiter.

Produkt (Abb. 1) Beschreibung: A LCD-Display mit Hintergrundbeleuchtung und Touchbereich für die Eingabe von Befehlen. C Modell, Eckdaten und Seriennummer.

Anschlusskontrolle: Die Anschlusskontrolle kann über den Install deaktiviert werden; siehe Menü Param (Abb. 17). Grundannahmen: Die Anschlusskontrolle basiert auf einigen Grundannahmen über das zu messende System.

Struktur des Menüs (Abb. 10): A Menü Messungen. B Menü Parameter. C Menü Informationen. Die Seiten sind mit der jeweiligen Maßeinheit gekennzeichnet.

Befehle: Navigation, Nächste Seite anzeigen, Vorherige Seite anzeigen, Menü Parameter aufrufen, Menü Informationen aufrufen, Menü Informationen verlassen, Werkstellungen aufrufen.

Parameterierung (Abb. 15): Beispiel: Parameterierung von PInt=24. HINWEIS: Anzeigt wird der aktuelle Wert. Die Parameterierung ist wirksam, sobald der Wert bestätigt wird.

Menü Messgrößen (Abb. 16): HINWEIS: **; Anzeige nur bei vollständiger Display-Anzeige (Mode = Full).

Seiten für alle Messgrößen: Page Beschreibung, 00 Bezogene Wirkenergie gesamt**, 01 Gesamtwirkleistung, 02 Gezielte Wirkenergie gesamt**, 03 Gesamtwirkleistung (P = demand), 04 Durchschnittliche Spannung im System, 05 Bezogene Wirkenergie gesamt**, 06 Durchschnittliche Phaseverspannung im System, 07 Bezogene Blindenergie gesamt**, 08 Bezogene Blindenergie gesamt**, 09 Bezogene Blindenergie gesamt**, 10 Bezogene Blindenergie gesamt**, 11 Bezogene Blindenergie gesamt**, 12 Bezogene Blindenergie gesamt**, 13 Blindenergie, 14 Bezogene Blindenergie.

Messfehler: Wenn das gemessene Signal die für den Energieanalyzator zulässigen Grenzwerte überschreitet, erscheint eine entsprechende Meldung: EEE, dauerhaft leuchtend; Die Messgröße hängt von einem Wert ab, der außerhalb des zulässigen Bereichs liegt.

Menü Parameter (Abb. 17): Seite Beschreibung, PASS P1 Eingabe des aktuellen Passworts, nPASS P2 Vier Ziffern (0000-9999), SYSTEM P3 Art des Systems.

Installation und Betrieb: Seite Beschreibung, INSTALL P7 Anschlusskontrolle, PInt P8 Intervall zur Berechnung der Durchschnittleistung (Minuten), MODE P9 Displaymodus.

Tariffverwaltung und Home: Seite Beschreibung, TARIFF P10 Tarifverwaltung, HOME P11 Seite mit Messgrößen, die beim Start und nach 120 Sekunden inaktivität angezeigt wird (nur X option).

ESet und End: Seite Beschreibung, ESET P17 Aktivierung der Zurückfunktion für Energie tariff, maximale angeforderte Leistung und Energie aktiv und reaktiv (letzte werden nur über serielle Schnittstelle übertragen), End P18 Rückkehr zur Startseite der Messgrößen.

Seiten nur für Version S1: Seite Beschreibung, Address P14 Modbus-Adresse, BAUD P15 Baudrate (kbps/s), PARITY P16 Parität, STOP bit P16-2 Nur bei Parität = No. Stopbit.

Seiten nur für Version O1: Seite Beschreibung, PULSE P12 Impulsdauer (ON-Zeit, Millisekunden), PULRAE P12-2 Impulsgewicht. Vielfaches von 100 Impulsen/kWh. Dauer: 100 ms: 100-1500 (1000).

Seiten nur für Version M1: Seite Beschreibung, Pr Add P13 M-Bus-Primäradresse, BAUD P15 Baudrate (kbps/s), PARITY P16 Parität, STOP bit P16-2 Stopbit.

Menü Informationen (Abb. 18): Seite Beschreibung, YEAR P1 Baujahr, SERIAL n INFO 2 Seriennummer, REVISIONE INFO 3 Revisionsnummer.

Seiten nur für Version S1: Seite Beschreibung, Address P14 Modbus-Adresse, BAUD P15 Baudrate, PARITY P16 Parität, STOP bit P16-2 Stopbit.

Seiten nur für Version O1: Seite Beschreibung, PULSE P12 Impulsdauer (ON-Zeit, Millisekunden), PULRAE P12-2 Impulsgewicht. Vielfaches von 100 Impulsen/kWh. Dauer: 100 ms: 100-1500 (1000).

Seiten nur für Version M1: Seite Beschreibung, Pr Add P13 M-Bus-Primäradresse, BAUD P15 Baudrate, PARITY P16 Parität, STOP bit P16-2 Stopbit.

Menü Informationen (Abb. 18): Seite Beschreibung, YEAR P1 Baujahr, SERIAL n INFO 2 Seriennummer, REVISIONE INFO 3 Revisionsnummer.

Seiten nur für Version S1: Seite Beschreibung, Address P14 Modbus-Adresse, BAUD P15 Baudrate, PARITY P16 Parität, STOP bit P16-2 Stopbit.

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Menü Informationen (Abb. 18): Seite Beschreibung, YEAR P1 Baujahr, SERIAL n INFO 2 Seriennummer, REVISIONE INFO 3 Revisionsnummer.

Seiten nur für Version S1: Seite Beschreibung, Address P14 Modbus-Adresse, BAUD P15 Baudrate, PARITY P16 Parität, STOP bit P16-2 Stopbit.

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Menü Informationen (Abb. 18): Seite Beschreibung, YEAR P1 Baujahr, SERIAL n INFO 2 Seriennummer, REVISIONE INFO 3 Revisionsnummer.

Seiten nur für Version S1: Seite Beschreibung, Address P14 Modbus-Adresse, BAUD P15 Baudrate, PARITY P16 Parität, STOP bit P16-2 Stopbit.

Seiten nur für Version O1: Seite Beschreibung, PULSE P12 Impulsdauer (ON-Zeit, Millisekunden), PULRAE P12-2 Impulsgewicht.

Seiten nur für Version M1: Seite Beschreibung, Pr Add P13 M-Bus-Primäradresse, BAUD P15 Baudrate, PARITY P16 Parität, STOP bit P16-2 Stopbit.

CARLO GAVAZZI
Installation and use instructions
65 A direct connection three-phase energy analyzer with Modbus, pulse or M-Bus interface
Code 8022035
The analyzer measures active and reactive energy, summing (easy connection mode on) or separating (imported energy mode on) energy. It manages two energy tariffs using a digital input or Modbus command. It can be equipped with an optional output to communicate measurements: pulse output, RS485 Modbus ports or M-Bus port. It measures three DIN modules, with backlit LCD display with sensitive touch screen areas for page scrolling and parameters setting.

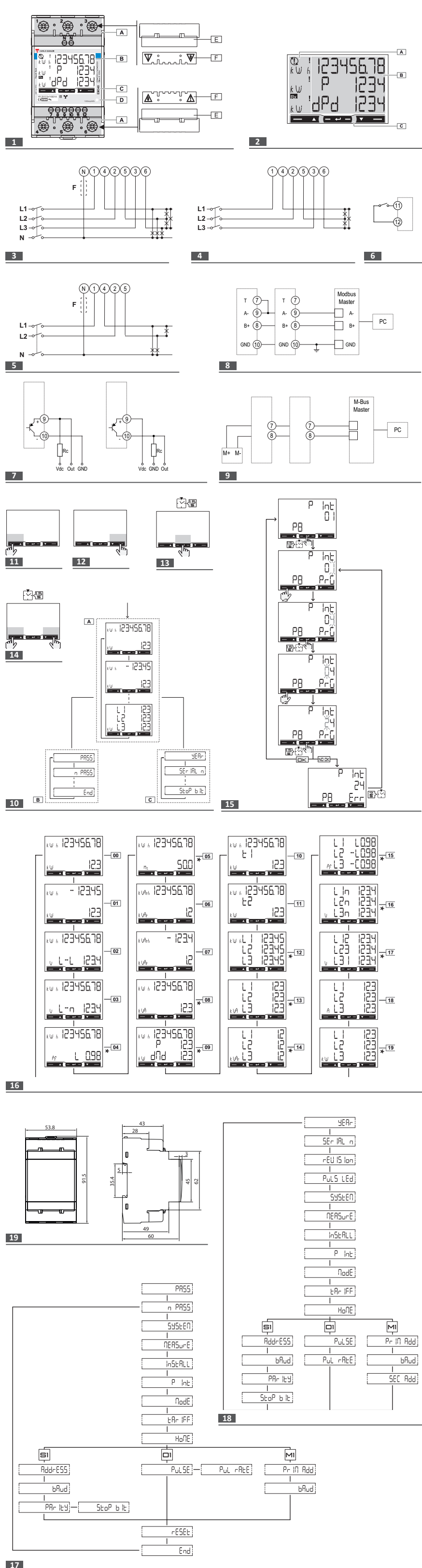
安裝及使用指示
65 A 直接連接三相電能分析儀，搭配 Modbus、脈沖或 M-Bus 介面
代碼 8022035
分析儀可測量有功及無功電能，加總(簡易連接模式開啟狀態下)或分離輸入電能與輸出電能。它可用數位輸入或 Modbus 命令管理兩個電能費率表。可裝配選選的輸出以傳輸度數、脈衝輸出、RS485 Modbus 連接埠或 M-Bus 連接埠。可測量三個 DIN 模組，搭配背光 LCD 顯示屏，配有靈敏觸控螢幕區(用於捲動頁面設定參數)。

安裝和使用說明
65 A 直接連接三相電能分析儀
帶有 Modbus、脈沖或 M-Bus 接口
代碼 8022035
分析儀可測量有功和無功電能，合併(簡易連接模式开启)或分離輸入的電能與輸出的電能。它使用數字輸入或 Modbus 命令來管理兩個電能費率表。該分析儀可以通過一個可選的輸出來傳輸測量數據。同時提供輸出，RS485 Modbus 端口或 M-Bus 端口。可測量三個 DIN 模塊，配備靈敏觸控屏區域的背光 LCD 顯示屏，用于頁面滾動和參數設置。

EN: Features
Electrical specifications
Self-governed (via measured voltage)
Consumption 1.5 W, 10 VA
Maximum current (continuing) 65 A
Minimum current 0.25 A
Start-up current 0.02 A
Working voltage 208-400 V L-L ac (mains voltage)
Frequency 50Hz (PP option); 45-65 Hz (X option)
Accuracy class Active energy: Class 1 (EN62052-21) / Class B (EN62052-31)
Reactive energy: Class 2 (EN62053-23)
Environmental specifications
Working temperature From -25 to +55°C (from -13 to +131°F) (PP option, standard or with suffices from 0 to 10)
From -25 to +70°C (from -13 to +156°F) (PP option with suffices from 6 to 19)
From -25 to +80°C (from -13 to +176°F) (option)
From -25 to +80°C (from -13 to +176°F) (option)
Storage temperature From -40 to +80°C non-condensing @ 95% RH
From -40 to +80°C non-condensing @ 95% RH
Environment From 0 to 100% non-condensing @ 95% RH
Intended for indoor use only.
Output specifications
Pulse output 1000 impulses/kWh. Proportionate to measured active energy (EN62052-21)
Modbus RS485 port details Modbus RTU protocol
M-Bus protocol, (EN13757-1), 5 frames.
NOTE: NOTE: For further details, see relevant protocol available on our website. To see output parameters, see Parameters menu (Fig. 17).
LED specifications
Pulse weight 1000 impulses/kWh (EN50470-3, EN62052-11)
Duration 90 ms
Color Red and orange
General features
Terminals 1-4: section 2.5-1.6 mm²; torque 2.8 Nm
7-12: N: section 1.5 mm²; torque 0.4 Nm
Front: IP54; terminals: IP20
Protection grade
Cleaning Use a slightly dampened cloth to clean the instrument display, do not use abrasives or solvents.
SERVICE AND WARRANTY
This is the level of production, fault or information on the warranty, contact the CARLO GAVAZZI distributor in your country.

中文繁體：功能
電氣規格
功率 自供電源(通過測量的電壓)
基本電流 1.5 W, 10 VA
最大電流(連續) 65 A
最小電流 0.25 A
啟動電流 0.02 A
工作電壓 208-400 V L-L ac (電壓電壓)
頻率 50Hz (PP 選項); 45-65 Hz (X 選項)
準確度等級 有功電能: 第 1 類 (EN62052-21) / B 類 (EN620470-3)
無功電能: 第 2 類 (EN62053-23)
環境規格
工作溫度 從 -25 至 +55 °C(從 -13 至 +131 °F) PP 選項，標準或具有下列附加標記
從 -25 至 +70 °C(從 -13 至 +156 °F) PP 選項，具有 6 到 19 的字母
從 -25 至 +80 °C(從 -13 至 +176 °F) (X 選項)
保存溫度 -30 至 +80°C/22 至 +176°F
相對濕度: 從 0 至 100% 非凝結 @ 95% RH
環境 室內使用。
輸出規格
脈沖輸出 1000 脈衝/kWh，與測量的有功電能成正比 (EN62052-21)
Modbus RS485 通訊輸出 Modbus RTU 通訊協定
M-Bus 通訊輸出 M-Bus 協議，(EN13757-1)，5 個數據包
備註: 備註: 如需進一步的評估信息，請參閱我們網站上提供的相關協議。若要設定輸出參數，請參閱參數功能表 (圖 17)。
LED 燈規格
脈衝重量 1000 脈衝/kWh (EN50470-3, EN62052-11)
脈衝持續時間 90 毫秒
顏色 紅色和橙色
一般功能
端子 1-4: 線徑 2.5-1.6 平方公釐，扭矩 2.8 Nm
7-12: N: 線徑 1.5 平方公釐，扭矩 0.4 Nm
絕緣等級 正面: IP54; 端子: IP20
清潔 使用略濕的布清潔儀器顯示屏，不要使用研磨劑或溶劑。
服務與保障
若您發生故障或需要了解詳情，請與 CARLO GAVAZZI 在您所在國家/地區的分公司或經銷商聯繫。

中文简体：功能
电气规格
功率 自供电源(通过测量的电压)
基本电流 1.5 W, 10 VA
最大电流(连续) 65 A
最小电流 0.25 A
启动电流 0.02 A
工作电压 208-400 V L-L ac (电压电压)
频率 50Hz (PP 选项); 45-65 Hz (X 选项)
准确度等级 有功电能: 第 1 类 (EN62052-21) / B 类 (EN620470-3)
无功电能: 第 2 类 (EN62053-23)
环境规格
工作温度 从 -25 至 +55 °C(从 -13 至 +131 °F) PP 选项，标准或具有下列附加标记
从 -25 至 +70 °C(从 -13 至 +156 °F) PP 选项，具有 6 到 19 的字母
从 -25 至 +80 °C(从 -13 至 +176 °F) (X 选项)
存储温度 -30 至 +80°C/22 至 +176°F
相对湿度: 从 0 至 100% 非凝露 @ 95% RH
环境 室内使用。
输出规格
脉冲输出 1000 次脉冲/kWh，与测量的有功电能成正比 (EN62052-21)
Modbus RS485 接口输出 Modbus RTU 协议
M-Bus 接口输出 M-Bus 协议，(EN13757-1)，5 帧
备注: 备注: 有关进一步的评估信息，请参閱我們网站上提供的相關協議。若要設定輸出參數，請參閱參數功能表 (圖 17)。
LED 燈規格
脈衝重量 1000 次脈沖/kWh (EN50470-3, EN62052-11)
脈衝持續時間 90 毫秒
顏色 紅色和橙色
一般功能
端子 1-4: 線徑 2.5-1.6 平方毫米，扭矩 2.8 Nm
7-12: N: 線徑 1.5 平方毫米，扭矩 0.4 Nm
絕緣等級 正面: IP54; 端子: IP20
清潔 使用略濕的布清潔儀器顯示屏，不要使用研磨劑或溶劑。
維修和保障
若您發生故障或需要了解詳情，請與 CARLO GAVAZZI 在您所在國家/地區的分公司或經銷商聯繫。



GENERAL WARNINGS
DANGER: Live parts. Heart attack, burns and other injuries. Disconnect the power supply and load before installing the analyzer. Protect terminals with covers. The energy analyzer should only be installed by qualified/authorized personnel.
These instructions are an integral part of the product. They should be consulted for all situations tied to installation and use. They should be kept with every each set of operators, in a clean place and in good conditions.
Important connection note
Before connecting any input/output wire, the protection cover (Fig. 1, F) must be correctly installed. The metallic part of the wire or ferrule must be completely inserted into the terminal.

Code key (analyzer side) EM340-DIN
AVx: 208-400 V L-L ac, 5(6)S/A, 3-phase system, 3-wire
Three or four-wire three-phase current system, two-phase current system, 3-wire
Self-powered (via measured voltage)
X: 01: pulse S1: Modbus RS485 port M1: M-Bus port
PFA: total energy (sum of + and - energy) certified according to MID
PB: only positive energy certified according to MID
Product (Fig. 1)
Area Description
A Current and communication connection terminals.
B Backlit LCD display with sensitive touch screen areas.
C Model, feature summary and serial number.
D LED:
blinking red: 1 pulse = 1 Wh
orange: total active power negative. Control only run if the imported and exported energies are measured separately (Measure = b).
Scaleable terminal cap.
Version S1 only. Modbus command correctly sent to master.
Terminal protection covers.
Display (Fig. 2)
Area Description
A Unit of measure and signal area.
C Incorrect voltage connections.
D LED:
blinking red: 1 pulse = 1 Wh
orange: total active power negative. Control only run if the imported and exported energies are measured separately (Measure = b).
Version S1 only. Modbus command correctly received.
Version S1 only. Modbus command correctly sent to master.
Area with specific section information
Command area.

Connection diagrams
Diagram Description
Fig. 3 Three-phase system, 4-wire, 315 mA fuse (F), if required by local law.
Fig. 4 Three-phase system, 3-wire.
Fig. 5 Two-phase system, 3-wire, 315 mA fuse (F), if required by local law.
Fig. 6 Digital input, Open contact + tariff 1, closed contact + tariff 2.
Fig. 7 Pulse output (two possible connections)
Vdc: external voltage (direct current)
Out: output contact (transistor PNP open collector)
GND: ground output contact (transistor PNP open collector)
Open collector outputs: the load resistance (RL) must be designed so that the closed contact current is under 100 mA (Vdc is equal to 1 V dc). DC voltage (Vdc) must be less than or equal to 80 V.
Fig. 8 RS485 Modbus with Master
Note: additional instruments with RS485 are connected in parallel. The serial output must only be terminated on the last network device connecting terminals A- and T. For connections longer than 1000 m use a signal repeater. Maximum 247 transceivers on the same bus.
Fig. 9 M-Bus with Master. Note: Maximum 250 transceivers on the same bus (1 M-Bus load).

Connection check
The analyzer checks whether connections are correct and signals any faults. The check can be disabled using the Install, parameter, see Parameter menu (Fig. 17).
Initial assumptions
The check is based on some initial assumptions on the system to be measured. Specifically, it is assumed that each system phase is characterized by:
a load with PF=0.766 (<40°) power factor if inductive or PF=0.996 (<5°) if capacitive
current at least equal to 10% rated current (65 A)
Controls and signals
Following are the controls in the order in which they are run and corresponding signals:
Voltage order
Current direction
NOTE: control only run if the imported and exported energies are measured separately (Measure = b).

Menu map (Fig. 10)
Area Function
A Measurement menu. Measurements displayed by default when turned on. Pages are characterized by the reference unit of measure.
B Parameter menu. Parameter settings pages. Require login password.
C Information menu. The pages display information and set parameters without having to enter a password.

Commands table with columns: Navigation, Command, Parameter settings, Operation, Command. Lists various menu navigation actions like 'View the next page', 'Open the parameter menu', etc., and their corresponding parameter settings and operations.

Setting a parameter (Fig. 15)
Procedure example: how to set P Int=24.
NOTE: the first displayed value is the current one. Settings are applied when the value is confirmed. The value is being edited if Prg appears, the set value is out of range if Err appears. After 120 s of disuse on a value being set, the title page is displayed if P Int is in the figure) and Prg disappears. After another 120 s, the Err message set as Home returns.

Measurement faults
If the measured signal exceeds the admitted analyzer limits, a specific message appears:
EEE blinking: the measured value is out of limits
EEE on: the measurement depends on a value that is out of limits
NOTE: active and reactive energy measurements are displayed but do not change.
Parameter menu (Fig. 17)
Shared pages
Code Description Values*
PASS P1 Enter current password Current password.
nPASS P2 Change password 0000-9999
SYSTEM P3 System type
MEASurE P6 Measurement type (only X option)

Pages specific to the S1 version
Page Code Description Values*
Address P14 Modbus address, 01 by default. 1-247
bAUd P15 Baud rate (kbps) 9.6/ 19.2/ 38.4/ 57.6/ 115.2
ParITY P16 Parity Even/No 1/2
STOP bit P16-2 Only if no parity. Stop bit. 1/2
Pages specific to the O1 version
Page Code Description Values*
PULSE P12 Pulse weight. Multiples of 100 impulses/kWh. For 30 ms: 100-1500 (1000) For 100 ms: 100-500
PulrATE P12-2 Pulse weight. Multiples of 100 impulses/kWh. For 30 ms: 100-1500 (1000) For 100 ms: 100-500
Pages specific to the M1 version
Page Code Description Values*
Pr I Add P13 M-Bus primary address 1-250 (0)
bAUd P15 Baud rate (kbps) 0.3/ 2.4/ 9.6
STOP bit P16-2 Stop bit. 1/2

Information menu (Fig. 18)
Shared pages
Page Code Description Page Code Description
Year INfO 1 Year of manufacture SYSTEM P3 System type
SERIAL n INfO 2 Serial number, corresponds to the one indicated on the front print, without the initial 'X' MEASurE P6 Measurement type (only X option)
rEVIStion INfO 3 Firmware revision - XY.m: 'X': non-standard, 'A' nPFA, 'B' nPFB + Y: A-pulse output, B: Modbus serial C: M-Bus serial. n: sequential revision number (ie: 01, 01, 02) INStALL P7 Enabling connection check
MODE P9 Display mode
TARIFF P10 Enabling tariff management and any current tariff
HOME P11 Measurement page set as home page (only X option)
Puls Led INfO 4 Front LED pulse weight

ENGLISH
一般警告
危險! 帶電零件。可能導致心臟病發作、燒傷及其他傷害。安裝分析儀前請先切斷電源及負載。以蓋子保護端子。電能分析儀只可由合格/授權人員安裝。
這些說明是本產品不可或缺的一部分。與安裝及使用相關的所有情況皆需參閱本指示。這些說明應方便操作者取得，並置於整潔位置且維持完好狀況。
重要連接注意事項
在連接任何輸入/輸出線之前，必須先正確安裝保護蓋(圖 1, F)。電線的金属部分或線圈必須完全插入端子中。

代碼鍵 (分析儀側面) EM340-DIN
AVx: 208-400 V L-L ac, 5(6)S/A 三相或四線三相電流系統; 自電源(透過測量的電壓)
X: 01: 脈衝 S1: Modbus RS485 通訊埠 M1: M-Bus 連接埠
PFA: 總電能(和-電能)加總認證符合 MID
PB: 只有正電能認證符合 MID
產品 (圖 1)
區域 說明
A 電流及通訊連接端子。
B 搭配背光觸控螢幕的背光 LCD 顯示器。
C 型號、功能摘要和序號。
D LED:
閃爍紅色: 1 脈衝 = 1 Wh
橘色燈亮: 總有功功率為負。只有在分開測量輸入和輸出的電能時，控制項才會執行(測量 = b)。
可密封端子蓋
端子保護蓋
顯示器 (圖 2)
區域 說明
A 測量單位和訊號區域:
電壓連接不正確
特定於單相、錯誤電壓方向
特定於單相、錯誤電壓方向
限 S1 版。Modbus 命令已正確接收。
限 S1 版。Modbus 命令已正確傳送到主機。
若要安裝密封端子蓋(圖 1 E)，請記得用適當的鐵線密封接頭鎖住端子蓋。
具有特定環境資訊的區域
命令區

接線圖
說明
圖 3 三相系統，4 線，315 mA 保險絲 (F) (若當地法律要求)。
圖 4 三相系統，3 線。
圖 5 兩相系統，3 線，315 mA 保險絲 (F) (若當地法律要求)。
圖 6 數位輸入，開放接觸 + 費率表 1，閉合接觸 = 費率表 2。
圖 7 脈衝輸出 (兩種可能連接)
Vdc: 外部電壓 (直流電)
Out: 輸出接觸 (電晶體 PNP 開集極)
GND: 接地輸出接觸 (電晶體 PNP 開集極)
開集極輸出: 負載電阻 (RL) 必須加以設計，以便開關接觸電流低於 100 mA (Vdc 等於 1 V dc)。直流電壓 (Vdc) 必須小於或等於 80 V。
圖 8 RS485 Modbus (附主機)
備註: RS485 的其他設備也以並聯方式連接。串列輸出只能在連接端子 A 和 T 的最後一個網路裝置上端接。針對長度超過 1000 公尺的連接，請使用信號重發器。同一線路上最多 247 個收發器。
圖 9 M-Bus (附主機)。備註: 同一線路上最多 250 個收發器 (1 M-Bus 負載)。

連接檢查
分析儀會檢查連接是否正確以及訊號是否有效。檢查可以透過安裝參數禁用。請參閱參數功能表 (圖 17)。
初始假設
檢查程序以待測系統上的一些初始假設為依據。具體而言是假設各系統相位的特性為:
• 負載的功率因數為 PF=0.766 (<40°) (若為電感) 或 PF=0.996 (<5°) (若為電容)
• 電流至少等於 10% 額定電流 (65 A)
控制項和訊號
以下是依照執行順序排序的控制項和對應的訊號:
電壓順序
電流方向
備註: 只有在分開測量輸入和輸出的電能時，控制項才會執行 (Measure = b)。

功能表地圖 (圖 10)
區域 功能
A 測量菜單。測量顯示為預設當開啟時。頁面根據參考測量單位進行特色化。
B 參數功能表。多數設置頁面，需要登入密碼。
C 資訊功能表。本頁面可顯示資訊和設定參數，無需輸入密碼。
命令
命令 說明 參數設定
操作 增加參數值 命令
查看上一頁 查看上一個值選項 命令 11
打開參數表 減少參數值 命令 12
打開信息菜單 檢查上一個值選項 命令 13 (頁面結尾)
退出資訊功能表 檢查值 命令 14
退出資訊功能表 快速確認 0000 預設密碼 命令 14

設定參數 (圖 15)
程序範例: 如何設定 P Int=24
備註: 第一個顯示的數值是目前的。設定在確認後生效。如果顯示 Prg，表示正在修改值; 如果顯示 Err，表示設置值超出範圍。在設置值時使用 120 秒後，將顯示標題頁 (圖中的 P Int)，同時 Prg 會消失。再過 120 秒後，返回 HOME 中設定的度量頁面。

Measurement faults table with columns: Fault code, Description, Action. Lists faults like 'EEE blinking', 'EEE on', and their corresponding descriptions and actions.

Parameter menu (Fig. 17)
Shared pages
Code Description Values*
PASS P1 Enter current password Current password.
nPASS P2 Change password 0000-9999
SYSTEM P3 System type
MEASurE P6 Measurement type (only X option)

Pages specific to the S1 version
Page Code Description Values*
Address P14 Modbus address, 01 by default. 1-247
bAUd P15 Baud rate (kbps) 9.6/ 19.2/ 38.4/ 57.6/ 115.2
ParITY P16 Parity Even/No 1/2
STOP bit P16-2 Only if no parity. Stop bit. 1/2
Pages specific to the O1 version
Page Code Description Values*
PULSE P12 Pulse weight. Multiples of 100 impulses/kWh. For 30 ms: 100-1500 (1000) For 100 ms: 100-500
PulrATE P12-2 Pulse weight. Multiples of 100 impulses/kWh. For 30 ms: 100-1500 (1000) For 100 ms: 100-500
Pages specific to the M1 version
Page Code Description Values*
Pr I Add P13 M-Bus primary address 1-250 (0)
bAUd P15 Baud rate (kbps) 0.3/ 2.4/ 9.6
STOP bit P16-2 Stop bit. 1/2

Information menu (Fig. 18)
Shared pages
Page Code Description Page Code Description
Year INfO 1 Year of manufacture SYSTEM P3 System type
SERIAL n INfO 2 Serial number, corresponds to the one indicated on the front print, without the initial 'X' MEASurE P6 Measurement type (only X option)
rEVIStion INfO 3 Firmware revision - XY.m: 'X': non-standard, 'A' nPFA, 'B' nPFB + Y: A-pulse output, B: Modbus serial C: M-Bus serial. n: sequential revision number (ie: 01, 01, 02) INStALL P7 Enabling connection check
MODE P9 Display mode
TARIFF P10 Enabling tariff management and any current tariff
HOME P11 Measurement page set as home page (only X option)
Puls Led INfO 4 Front LED pulse weight

Pages specific to the S1 version
Page Code Description Page Code Description
Address P14 Modbus address, 01 by default. 1-247
bAUd P15 Baud rate 9.6/ 19.2/ 38.4/ 57.6/ 115.2
ParITY P16 Parity Even/No 1/2
STOP bit P16-2 Stop bit. 1/2
Pages specific to the O1 version
Page Code Description Values*
PULSE P12 Pulse weight. Multiples of 100 impulses/kWh. For 30 ms: 100-1500 (1000) For 100 ms: 100-500
PulrATE P12-2 Pulse weight. Multiples of 100 impulses/kWh. For 30 ms: 100-1500 (1000) For 100 ms: 100-500
Pages specific to the M1 version
Page Code Description Values*
Pr I Add P13 M-Bus primary address 1-250 (0)
bAUd P15 Baud rate (kbps) 0.3/ 2.4/ 9.6
STOP bit P16-2 Stop bit. 1/2

中文繁體
一般警告
危險! 帶電零件。可能導致心臟病發作、燒傷及其他傷害。安裝分析儀之前，請先斷開電源和所有負載。以蓋子保護端子。電能分析儀只能由合格/授權人員安裝。
這些說明書是產品不可缺少的組成部分。有關安裝和使用的所有情況都應查閱本說明書。這些說明書應由操作員取得，並置於整潔位置且保持良好狀況。
重要連接說明
在連接任何輸入/輸出電線之前，必須正確安裝保護蓋(圖 1, F)。電線或電線的金属部分必須完全插入到端子中。

代碼鍵 (分析儀側面) EM340-DIN
AVx: 208-400 V L-L ac, 5(6)S/A 三相或四線三相電流系統; 自電源(透過測量的電壓)
X: 01: 脈衝 S1: Modbus RS485 通訊埠 M1: M-Bus 連接埠
PFA: 總電能(和-電能)加總認證符合 MID
PB: 只有正電能認證符合 MID
產品 (圖 1)
區域 說明
A 電流和通信連接端子。
B 背光 LCD 顯示屏，具有背光觸控區域。
C 型號、功能摘要和序列號。
D LED:
閃爍紅色: 1 脈衝 = 1 Wh
橘色燈亮: 總有功功率為負。僅當單獨測量輸入和輸出電能 (Measure = b) 時運行控件。
可密封端子蓋
端子保護蓋
顯示器 (圖 2)
區域 說明
A 測量單位和信號區域:
電壓連接不正確
特定於單相、錯誤的電壓方向
特定於單相、錯誤的電壓方向
限 S1 版。Modbus 命令已正確接收。
限 S1 版。Modbus 命令已正確傳送到主機。
若要安裝密封端子蓋(圖 1 E)，請在相應的區域使用相應的鐵線密封件將其鎖定。
具有特定信息的區域
命令區域

接線圖
說明
圖 3 三相系統，4 線，315 mA 保險絲 (F)。如果當地法律要求。
圖 4 三相系統，3 線。
圖 5 兩相系統，3 線，315 mA 保險絲 (F)。如果當地法律要求。
圖 6 數字輸入，新斷點 = 費率 1，閉合點 = 費率 2。
圖 7 脈衝輸出 (兩種可能的連接)
Vdc: 外部電壓 (直流)
GND: 接地輸出接觸 (晶體管 PNP 開路集電極)
開路集電極輸出: 負載電阻 (RL) 必須加以設計，以便開關電流低於 100 mA (Vdc 等於 1 V dc)。DC 電壓 (Vdc) 必須小於或等於 80 V。
圖 8 RS485 Modbus (帶主機)
備註: 具有主功能的 RS485 Modbus 設備也以並聯方式連接。串行輸出必須連接在子後一個网络设备連接端子 A 和 T 上。對於長度超過 1000 公尺的連接，請使用信號重發器。同一總線上最多 247 個收發器。
圖 9 具有主控功能的 M-Bus。備註: 同一總線上最多 250 個收發器 (1 個 M-Bus 負載)。

連接檢查
分析儀會檢查連接是否正確以及訊號是否有效。檢查可以透過安裝參數禁用。請參閱參數功能表 (圖 17)。
初始假設
檢查程序於測量的系統上的一些初始假設。特別地，其假設每個系統相位都具有以下特征:
• 負載的功率因數為 PF=0.766 (<40°) (電感式) 或 PF=0.996 (<5°) (電容式)
• 電流至少等於 10% 額定電流 (65 A)
控制項和信號
以下是各條件 (按其運行順序) 及對應的信號:
電壓順序
電流方向
備註: 僅當單獨測量輸入和輸出電能 (Measure = b) 時運行控件。

菜單地圖 (圖 10)
區域 功能
A 測量菜單。在開啟預設時顯示測量菜單。頁面以參考測量單位進行特征化。
B 參數菜單。參數設置頁面，需要登錄密碼。
C 信息菜單。頁面顯示信息和設置參數，無需輸入密碼。
命令
命令 說明 參數設定
查看上一頁 增加參數值 命令 11
查看上一頁 查看下一個值選項 命令 11
打開參數表 減少參數值 命令 12
打開信息菜單 檢查上一個值選項 命令 13 (頁尾)
退出資訊功能表 檢查值 命令 14
退出資訊功能表 快速確認 0000 預設密碼 命令 14

設定參數 (圖 15)
程序範例: 如何設定 P Int=24
備註: 第一個顯示的數值是目前的。設定在確認後生效。如果顯示 Prg，表示正在修改值; 如果顯示 Err，表示設置值超出範圍。在設置值時使用 120 秒後，將顯示標題頁 (圖中的 P Int)，同時 Prg 會消失。再過 120 秒後，返回 HOME 中設定的測量頁面。

Measurement faults table with columns: Fault code, Description, Action. Lists faults like 'EEE blinking', 'EEE on', and their corresponding descriptions and actions.

Parameter menu (Fig. 17)
Shared pages
Code Description Values*
PASS P1 Enter current password Current password.
nPASS P2 Change password 0000-9999
SYSTEM P3 System type
MEASurE P6 Measurement type (only X option)

Pages specific to the S1 version
Page Code Description Values*
Address P14 Modbus address, 01 by default. 1-247
bAUd P15 Baud rate (kbps) 9.6/ 19.2/ 38.4/ 57.6/ 115.2
ParITY P16 Parity Even/No 1/2
STOP bit P16-2 Only if no parity. Stop bit. 1/2
Pages specific to the O1 version
Page Code Description Values*
PULSE P12 Pulse weight. Multiples of 100 impulses/kWh. For 30 ms: 100-1500 (1000) For 100 ms: 100-500
PulrATE P12-2 Pulse weight. Multiples of 100 impulses/kWh. For 30 ms: 100-1500 (1000) For 100 ms: 100-500
Pages specific to the M1 version
Page Code Description Values*
Pr I Add P13 M-Bus primary address 1-250 (0)
bAUd P15 Baud rate (kbps) 0.3/ 2.4/ 9.6
STOP bit P16-2 Stop bit. 1/2

Information menu (Fig. 18)
Shared pages
Page Code Description Page Code Description
Year INfO 1 Year of manufacture SYSTEM P3 System type
SERIAL n INfO 2 Serial number, corresponds to the one indicated on the front print, without the initial 'X' MEASurE P6 Measurement type (only X option)
rEVIStion INfO 3 Firmware revision - XY.m: 'X': non-standard, 'A' nPFA, 'B' nPFB + Y: A-pulse output, B: Modbus serial C: M-Bus serial. n: sequential revision number (ie: 01, 01, 02) INStALL P7 Enabling connection check
MODE P9 Display mode
TARIFF P10 Enabling tariff management and any current tariff
HOME P11 Measurement page set as home page (only X option)
Puls Led INfO 4 Front LED pulse weight

Pages specific to the S1 version
Page Code Description Page Code Description
Address P14 Modbus address, 01 by default. 1-247
bAUd P15 Baud rate 9.6/ 19.2/ 38.4/ 57.6/ 115.2
ParITY P16 Parity Even/No 1/2
STOP bit P16-2 Stop bit. 1/2
Pages specific to the O1 version
Page Code Description Values*
PULSE P12 Pulse weight. Multiples of 100 impulses/kWh. For 30 ms: 100-1500 (1000) For 100 ms: 100-500
PulrATE P12-2 Pulse weight. Multiples of 100 impulses/kWh. For 30 ms: 100-1500 (1000) For 100 ms: 100-500
Pages specific to the M1 version
Page Code Description Values*
Pr I Add P13 M-Bus primary address 1-250 (0)
bAUd P15 Baud rate (kbps) 0.3/ 2.4/ 9.6
STOP bit P16-2 Stop bit. 1/2

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