



WM15

Installation instruction

Power analyzer for three-phase, two-phase or single-phase systems

Istruzioni per l’installazione

Analizzatore di potenza per sistemi trifase, bifase e monofase

Installationsanweisung

Leistungsanalysator für Drei-, Zwei- und Einphasensysteme

Instructions pour l’installation

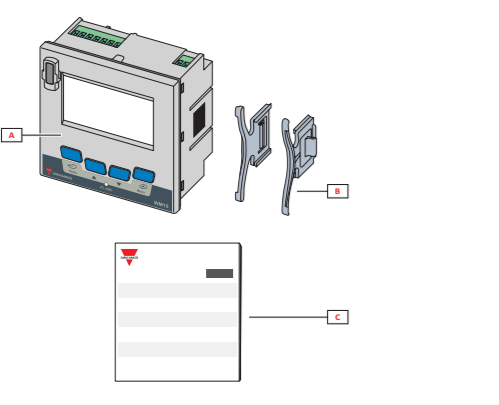
Analyseur de puissance pour systèmes triphasé, biphasé et monophasé

Instrucciones para la instalación

Analizador de potencial para sistemas trifásicos, bifásicos y monofásicos

Vejledning til installation

Analyseapparat effekt til trefasede, tofasede og enfasede systemer



EN	
Operating temperature	From -25 to +55 °C/from -13 to +131 °F
Storage temperature	From -25 to +70 °C/from -13 to +158 °F
Overvoltage category	Cat. III
Consumption	AV5 3X: 1.4W/2.5VA. AV5 3H: 1W/2VA
Digital output	V _{ON} 2.5 V ac/dc, max 100 mA V _{OFF} 42 V ac/dc
Weight	280 g
<i>Note: R.H. < 90 % non-condensing @ 40 °C / 104 °F.</i>	

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Temperatura di esercizio	Da -25 a +55 °C/da -13 a +131 °F
Temperatura di stoccaggio	Da -25 a +70 °C/da -13 a +158 °F
Categoria di sovratensione	Cat. III
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Vægt	280 g
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	ENGLISH		
Box contents	A. WM15 with support for connection with OptoProg B. Two lateral brackets for panel mounting C. This instruction sheet		

Warnings

⚠ **DANGER!** Live parts. Heart attack, burns and other injuries.

- Disconnect the power supply and loads before connecting/disconnecting the electrical wires.
- Only use the analyzer at the specified voltage and current.
- The energy analyzer should only be installed by qualified personnel experienced in working in safety.
- Access to the rear terminals is reserved for qualified personnel for maintenance operations.
- The system installer is liable for the safety of any system that includes the analyzer

⚠	NOTICE: <i>only use the analyzer at the specified voltage and current to avoid permanent damage.</i>
⚠	NOTICE: <i>no one is authorized to open the analyzer. This operation is reserved exclusively for CARLO GAVAZZI technical service personnel. Protection may be impaired if the instrument is used in a manner not specified by the manufacturer.</i>

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	ITALIANO		
Contenuto della confezione	A. WM15 con supporto per collegamento con OptoProg B. Due staffe laterali per fissaggio a pannello C. Questo foglio istruzioni		

Avvertenze

⚠ **PERICOLO!** Parti sotto tensione. Arresto cardiaco, bruciature e altre lesioni.

- Scollegare l'alimentazione e i carichi prima di collegare/scollegare i cavi elettrici.
- Utilizzare l'analizzatore solo alla tensione e corrente specificate.
- L'installazione degli analizzatori d'energia deve essere eseguita solo da personale specializzato.
- L'accesso ai terminali posteriori è riservato a personale specializzato per operazioni di manutenzione.
- La sicurezza di qualsiasi sistema che incorpora l'analizzatore ricade sotto la responsabilità dell'installatore del sistema.

⚠	AVVISO: <i>utilizzare l'analizzatore solo alla tensione e corrente specificate per evitare danni permanenti.</i>
⚠	AVVISO: <i>nessuno è autorizzato ad aprire l'analizzatore. Solo il personale dell'assistenza tecnica CARLO GAVAZZI può farlo. La protezione può essere compromessa se lo strumento viene usato in un modo non specificato dal costruttore.</i>

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	DEUTSCH		
Packungsinhalt	A. WM15 mit Halterung für den Anschluss mit OptoProg B. Zwei seitliche Bügel zur Schalttafelbefestigung C. Diese Anleitung		

Hinweise

⚠ **GEFAHR!** Unter Spannung stehende Teile. Herzstillstand, Verbrennungen und sonstige Verletzungen.

- Bevor Stromkabel angeschlossen/gelöst werden, muss die Stromversorgung und die Last unterbrochen werden.
- Den Analysator ausschließlich mit der angegebenen Spannung und dem angegebenen Strom betreiben.
- Die Installation der Energieanalysatoren darf ausschließlich von Personen vorgenommen werden, die in der Lage sind, unter Sicherheitsbedingungen zu arbeiten.
- Der Zugang zu den hinteren Klemmen ist qualifiziertem Personal für Wartungsarbeiten vorbehalten.
- Die Sicherheit jedes Systems, in welches des Analysator eingebaut wird, liegt in der Verantwortung derjenigen Person, die das System installiert.

⚠	HINWEIS: <i>den Analysator ausschließlich mit der angegebenen Spannung und dem angegebenen Strom betreiben, um dauerhafte Schäden zu vermeiden.</i>
⚠	HINWEIS: <i>es ist niemandem gestattet, den Analysator zu öffnen. Dies ist nur dem Kundendienstpersonal der Fa. CARLO GAVAZZI gestattet. Die Schutzfunktion kann beeinträchtigt werden, wenn das Instrument anders als vom Hersteller vorgesehen benutzt wird.</i>

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	FRAANÇAIS		
Contenu de l'emballage	A. WM15 avec support pour connexion avec OptoProg B. Deux étriers latéraux pour fixation au panneau C. Cette notice d'instructions		

Avertissements

⚠ **DANGER!** Pièces sous tension. Crise cardiaque, brûlures et autres blessures.

- Débrancher l'alimentation et les charges avant de brancher/débrancher les câbles électriques.
- Utiliser l'analyseur seulement à la tension et au courant spécifiques.
- L'installation des analyseurs d'énergie dot être effectuée seulement par des personnes sachant opérer en

Installing WM15 / Installare il WM15 / Installation des WM15 / Installer le WM15 / Instalar el WM15 / Installer WM15

1. Mount WM15 on the panel.
2. Complete connections.

	AV5 3X	AV5 3H
Un (L-N)	120 ... 240 V	120 ... 347 V
Un (L-L)	208...415 V	208 ... 600 V
Frequency	50...60 Hz	
In	5 A	5 A
Imax	6 A	6 A

3. Connect RS485, digital output and power supply 120...240 V ac/dc; 50/60 Hz.
4. Seal the terminal caps (MID requirement).
5. Turn on power and check correct operation.
6. Complete the MID programming (only PF version). The CT ratio must be set before use. Once set, the CT ratio cannot be changed. Follow the guided procedure on the display to set the CT ratio.
7. Configure WM15.

1. Montare il WM15 a pannello.
2. Eseguire i collegamenti.

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3. Collegare RS485, uscita digitale e alimentazione 120...240 V ca/cc; 50/60 Hz.
4. Sigillare i coprimorsetti (requisito MID).
5. Alimentare e verificare il corretto funzionamento.
6. Eseguire la programmazione MID (solo versione PF). Il rapporto TA deve essere programmato prima dell'uso. Una volta programmato, il rapporto TA non può essere modificato. Seguire la procedura guidata sul display per impostare il rapporto TA.
7. Configurare il WM15.

1. Den WM15 an der Schalttafel montieren.
2. Die Anschlüsse vornehmen.

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Frequenz	50...60 Hz	
In	5 A	5 A
Imax	6 A	6 A

3. RS485, Digitalausgang und Stromversorgung anschließen 120...240 V ac/dc; 50/60 Hz.
4. Siegeln Sie die Anschlussabdeckungen (MID-Anforderung)
5. Die Stromversorgung einschalten und die einwandfreie Funktion prüfen.
6. MID-Programmierung (nur PF-Version). Das CT-Verhältnis muss vor der Verwendung programmiert werden. Einmal programmiert, kann das CT-Verhältnis nicht mehr geändert werden. Folgen Sie dem Konfigurationsablauf auf dem Display, um den CT-Bericht einzustellen.
7. Konfigurieren Sie das WM15.

1. Monter le WM15 sur le panneau.
2. Effectuer les connexions.

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3. Connecter RS485, sorties logiques et alimentation 120...240 V ca/cc; 50/60 Hz.
4. Sceller les cache-bornes (exigence MID)
5. Alimenter et vérifier le fonctionnement correct.
6. Programmation MID (seulement version PF). Le rapport CT doit être programmé avant utilisation. Une fois programmé, le rapport CT ne peut être modifié. Suivre la procédure guidée sur l'afficheur pour programmer le rapport CT.
7. Configurer le WM15.

1. Montar el WM15 en el panel.
2. Realizar las conexiones.

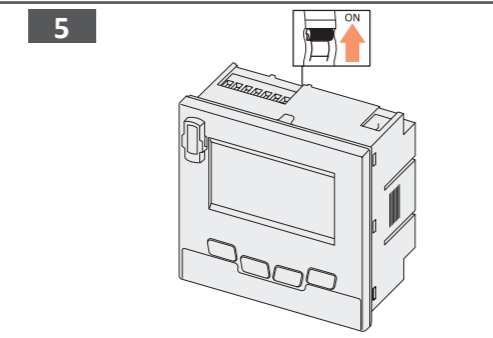
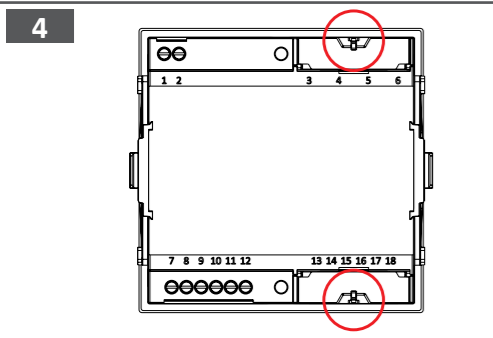
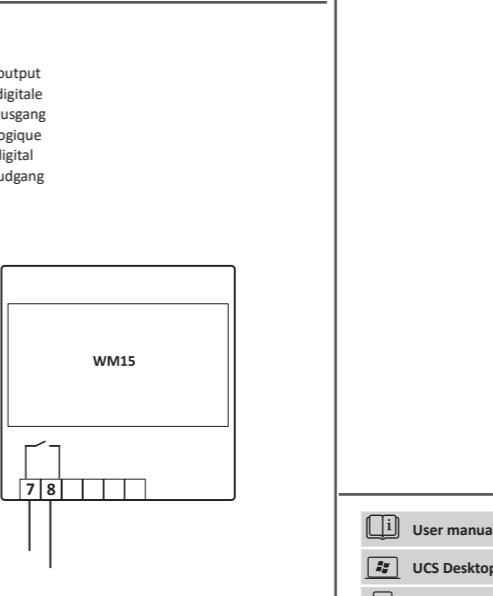
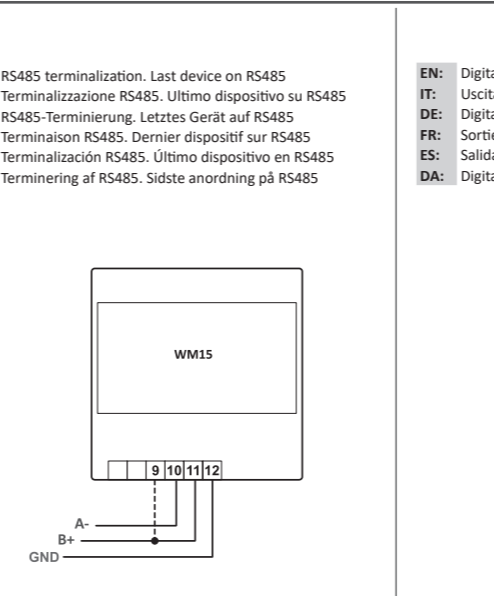
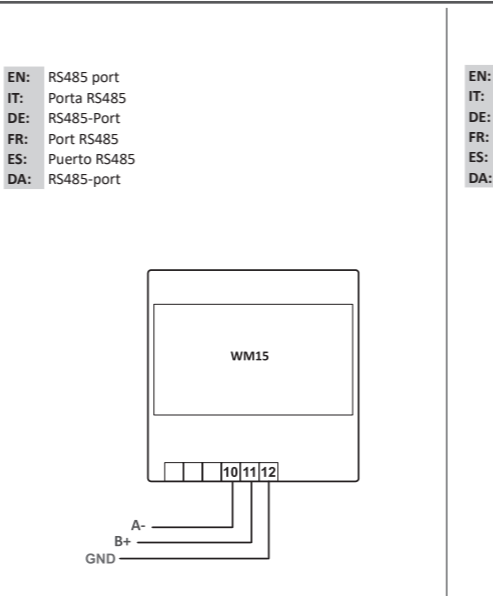
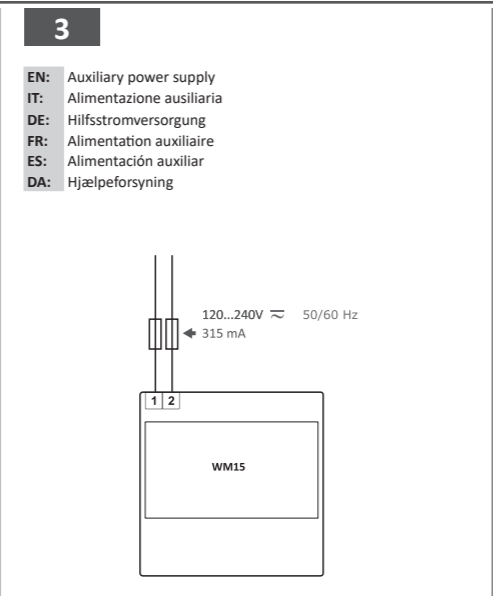
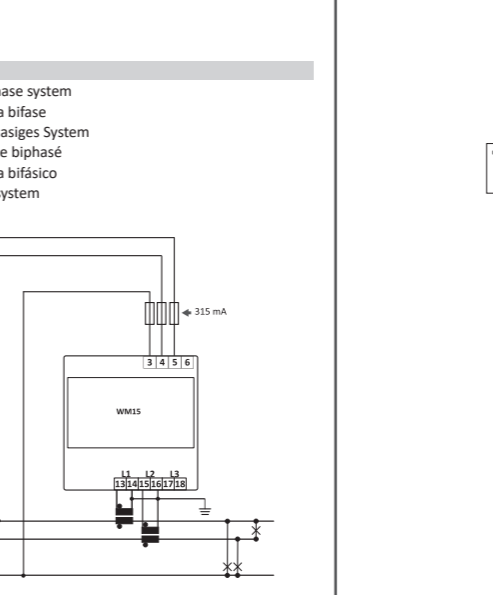
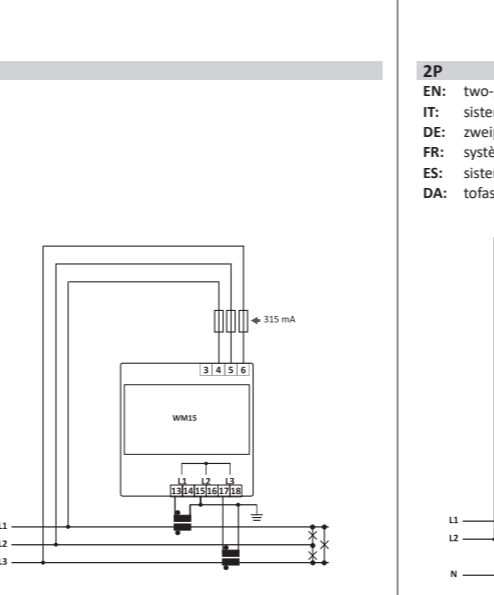
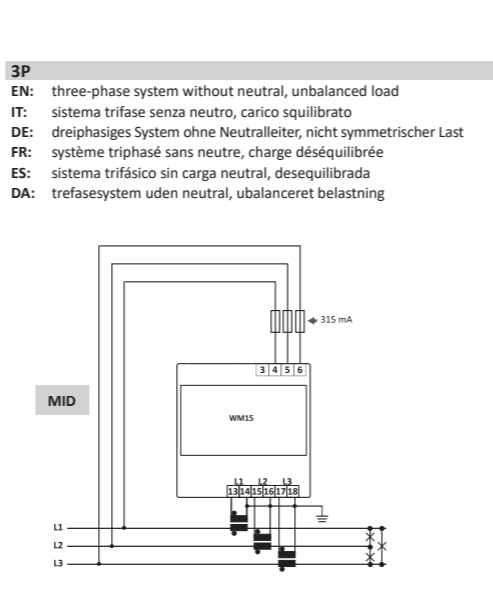
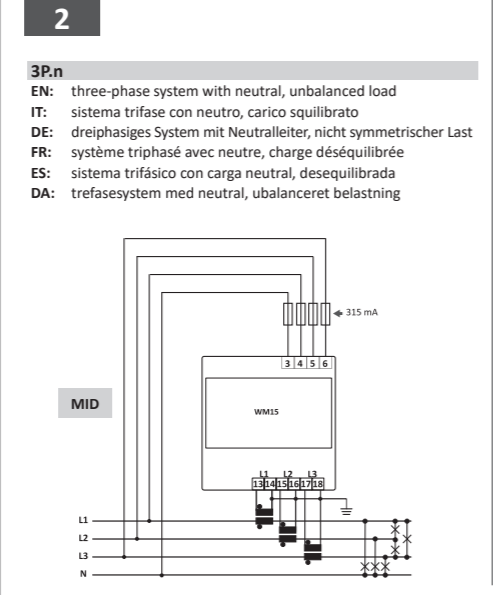
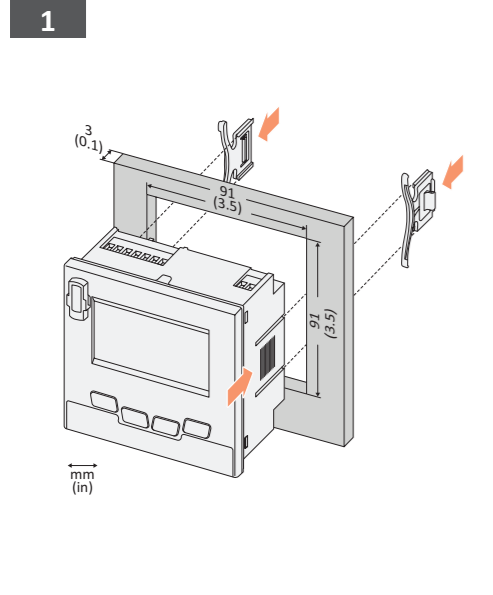
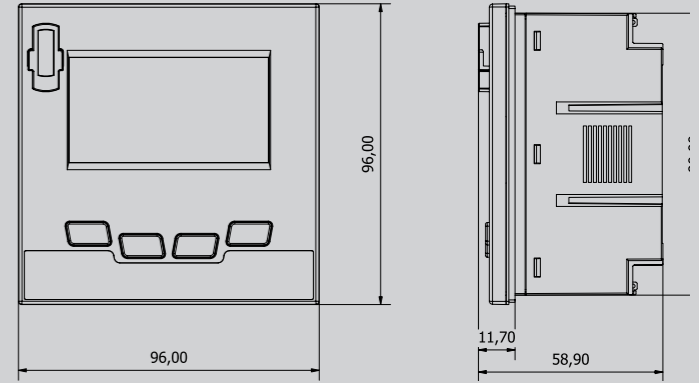
	AV5 3X	AV5 3H
Un (L-N)	120 ... 240 V	120 ... 347 V
Un (L-L)	208...415 V	208 ... 600 V
Frecuencia	50...60 Hz	
In	5 A	5 A
Imax	6 A	6 A

3. Conectar RS485, salida digital y alimentación 120...240 V ca/cc; 50/60 Hz.
4. Sellar los cubrebornes (requisito MID)
5. Alimentar y comprobar el correcto funcionamiento.
6. Programación MID (solo versión PF). La relación CT debe programarse antes del uso. Una vez programada, la relación CT no se puede modificar. Seguir el procedimiento guiado en el display para configurar la relación CT.
7. Configurar el WM15.

1. Monter WM15 på panel.
2. Udfør tilslutningerne.

	AV5 3X	AV5 3H
Un (L-N)	120 ... 240 V	120 ... 347 V
Un (L-L)	208...415 V	208 ... 600 V
Frekvens	50...60 Hz	
In	5 A	5 A
Imax	6 A	6 A

3. Forbind RS485, digital udgang og strømforsyning 120...240 V ca/cc; 50/60 Hz.
4. Forsegle klemmedæksler (MID krav)
5. Sæt strøm til, og kontrollér den korrekte drift.
6. Programmering af MID (kun PF-version). CT-forholdet skal programmeres inden brug. Når det er programmeret, kan CT-forholdet ikke ændres. Følg den trinvis procedure på displayet for at indstille CT-forholdet.
7. Konfigurer WM15.



7

UCS Desktop UCS Mobile Instruction manual WM15

QUICK SETUP! NO NEXT TIME

Keypad RS485 Optoprogram

	User manual WM15	www.productselection.net/MANUALS/UK/WM15_im_use.pdf
	UCS Desktop	www.productselection.net/Download/UK/ucs.zip
	UCS Mobile	Google Play Store



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www.gavazziautomation.com
info@gavazzi-automation.com
 info: +39 0437 355811 / fax: +39 0437 355880



WM15

Installation instruction

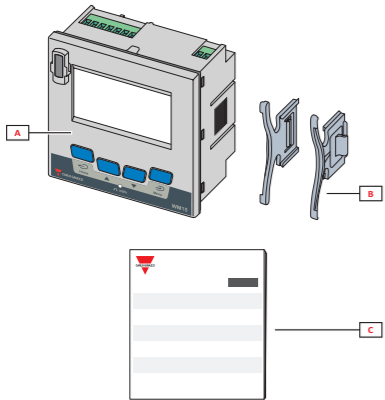
Power analyzer for three-phase, two-phase or single-phase systems

安裝說明

適用於三相、雙相或單相系統的電力分析儀

安装说明

适用于三相、两相或单相系统的功率分析仪



ENGLISH

Box contents

- WM15 with support for connection with OptoProg
- Two lateral brackets for panel mounting
- This instruction sheet

Warnings

⚠ DANGER! Live parts. Heart attack, burns and other injuries.

- Disconnect the power supply and loads before connecting/disconnecting the accessory modules and electrical wires.
- Only use the analyzer at the specified voltage and current.
- The energy analyzer should only be installed by qualified/authorized personnel experienced in working in safety.
- Access to the rear terminals is reserved for qualified personnel for maintenance operations.
- The system installer is liable for the safety of any system that includes the analyzer

NOTICE: only use the analyzer at the specified voltage and current to avoid permanent damage.

NOTICE: no one is authorized to open the analyzer. This operation is reserved exclusively for CARLO GAVAZZI technical service personnel. Protection may be impaired if the instrument is used in a manner not specified by the manufacturer.




This manual is an integral part of the product. It must be consulted for analyzer installation. It must be kept in good condition and in a clean location accessible to all operators.

Cleaning

Use a slightly dampened cloth to clean the display. Do not use abrasives or solvents.

Responsibility for disposal

 The product must be disposed of at the relative recycling centers specified by the government or local public authorities. Correct disposal and recycling will contribute to the prevention of potentially harmful consequences to the environment and persons.

Service and warranty


In the event of malfunction, fault, requests for information or to purchase accessory modules, contact the CARLO GAVAZZI branch or distributor in your country. Installation and use of analyzers other than those indicated in the provided instructions void the warranty.



UL notes:


- The instrument must be installed taking care of leaving the external disconnecting device easily accessible.
- Not suitable for “Class 2 wiring methods” and “Not intended for connection to Class 2 equipment”.
- Always open or disconnect circuit from industrial control system before installing or servicing current transformers
- Leads of the current transformers shall be maintained within the same end-product enclosure and they shall be segregate or insulate from different circuits at 600V
- Use copper/CU conductors only with a rating of 60°C/75°C minimum
- The current transformers are intended for installation within the same enclosure as the equipment. The instrument is not intended for installation and use as utility meter.
- Warning: to reduce the risk of electric shock, always open or disconnect circuit from industrial control system before installing or servicing current transformers.
- Required an external switch or circuit-breaker that must be mounted near the instrument.
- Suitable to be front panel mounted on an enclosure type 1, 5, 12

ENGLISH

Display icons

Symbol	Description
	Blinking icon + ALARM ON: the value of the variable has exceeded the threshold set. Steady icon + WIRING: a wiring fault has been detected, the control operates correctly if, for each phase: <ul style="list-style-type: none">the power is positive (imported),PF > 0.7 L or PF > 0.96 C.

 	Serial or optical communication state (reception / transmission)
---	--

	The association of the phase terminal or the direction of the currents have been modified via UCS (software or app) to correct virtually a wiring fault. To view the current setup of the terminals, access the info screens.
---	---

繁體中文

包裝盒內容

- WM15，配備 OptoProg 連接支架
- 兩個面板安裝橫向架
- 本說明表

警告



- 危險!** 帶電零件。可能導致心臟病發作、燒傷及其他傷害。
 - 在連接/斷開配件模組和電線之前，請先斷開電源和所有負載。
- 只能在規定電壓和電流下使用分析儀。
- 電能分析儀只能由具備安全工作經驗的合格/授權人員安裝。
- 僅限合格人員使用背面端子，以進行維護操作。
- 系統安裝人員負責保證任何包含分析儀的系統的安全性

注意: 只可在規定電壓和電流下使用分析儀，以避免發生永久性損害。

注意: 任何人都不得拆開分析儀。此類操作必須由 CARLO GAVAZZI 技術服務人員進行。如果不依照製造商指定的方式使用儀器，可能會對防護等級造成損害。




本手冊是產品不可或缺的一部分。安裝分析儀時必須查閱本手冊。請務必將手冊妥善存放在所有操作人員都能方便拿取的顯眼位置。

清潔

使用微濕抹布清潔顯示器。請勿使用研磨劑或溶劑。

廢棄責任

 必須將本產品交由政府或當地公共機關指定之相關回收中心進行廢棄。請按照正確方式廢棄和回收，避免對環境與個人造成潛在危害。


服務與保固



若功能異常、發生故障、需要資訊或購買配件模組，請聯絡您所在國家/地區的 CARLO GAVAZZI 分公司。


若未按照附帶說明書所載方式安裝和使用分析儀，將導致保固失效。

繁體中文

顯示器圖示

符號	說明
	圖示閃爍 + 警報開啟: 變數值超過設定的閾值。 穩定的圖示 + 接線: 偵測到接線故障，對於每個相位，如果滿足以下條件，則控制器正常工作： <ul style="list-style-type: none">電源為正向 (輸入)，PF > 0.7 L 或 PF > 0.96 C。

 	序列或光學通訊狀態 (接收/傳輸)
---	-------------------

	已透過 UCS (軟體或行動應用程式) 修改相位端子的關聯或電流方向，以便虛擬地校正接線故障。若要檢視端子的當前設定，請開啟資訊畫面。
---	---

简体中文

包装盒内容

- WM15，附带 OptoProg 连接支架
- 两个面板安装侧架
- 本说明书

警告



- 危险!** 带电部件。可能导致心脏病发作、烧伤及其他伤害。
 - 在连接/断开附属模块和电线之前，请先断开电源和所有负荷。
- 只可在规定电压和电流下使用分析仪。
- 电能分析仪只能由具备安全工作经验的合格/授权人员安装。
- 只有合格人员才能使用后部端子，以进行维护操作。
- 系统安装人员负责保证任何包含分析仪的系统的安生性

注意: 只可在规定电压和电流下使用分析仪，以避免发生永久性损坏。

注意: 任何人都不得拆开分析仪。只有 CARLO GAVAZZI 的技术服务人员才可进行此项操作。如果以制造商未指定的方式使用仪器，可能会损害保护功能。




本手册是产品不可或缺的一部分。安装分析仪时必须查阅本手册。必须将其妥善保存在所有操作人员都可轻松取得的显眼位置。

清洁

使用略微蘸湿的布清洁显示屏。请勿使用研磨剂或溶剂。

处置责任

 本产品必须在政府或当地公共机构所指定的相关回收中心进行处置。正确处置和回收可以防止对环境 and 人身安全造成潜在危害。


维修和保修



如果发生故障、错误，或需要了解信息或购买附属模块，请联系 CARLO GAVAZZI 在您所在国家/地区的分公司或经销商。


若未按照附带说明书所载方式安装和使用分析仪，将导致保修失效。

简体中文

显示屏图标

符号	说明
	图标闪烁 + 警报接通: 变量值超出设定的阈值。 图标稳定 + 接线: 检测到接线故障，对于每个相位，如果满足以下条件，则控制器正常工作： <ul style="list-style-type: none">功率为正 (输入)，PF > 0.7 L 或 PF > 0.96 C。

 	串行或光学通信状态 (接收/传输)
---	-------------------

	已通过 UCS (软件或应用) 修改相位端子的关联或电流方向，以便虚拟校正接线故障。如需查看端子的当前设置，请访问信息屏幕。
---	--

EN

Operating temperature	From -25 to +55 °C/from -13 to +131 °F
Storage temperature	From -25 to +70 °C/from -13 to +158 °F
Overvoltage category	Cat. III
Consumption	AV5 3X: 1.4W/2.5VA AV5 3H: 1W/2VA
Digital output	V _{ON} 2.5 V ac/dc, max 100 mA V _{OFF} 42 V ac/dc
Weight	280 g

Note: R.H. < 90 % non-condensing @ 40 °C / 104 °F.

UL note: Open Type Device, indoor use only. Current measuring input terminals must be connected through UL listed or R/C Measuring transformers. Direct connection to the line voltage is not allowed.

繁體中文

作業溫度	-25 到 +55 °C/-13 到 +131 °F
儲存溫度	-25 到 +70 °C/-13 到 +158 °F
過電壓類別	類別III
消耗量	AV5 3X: 1.4W/2.5VA AV5 3H: 1W/2VA
數位輸出	V _{ON} 2.5 V 交流/直流、最大值 100 mA V _{OFF} 42 V 交流/直流
重量	280 g

備註：相對濕度 < 90 % 未凝結 @ 40 °C / 104 °F。

UL 備註：開放型裝置，僅可於室內使用。電流測量輸入端子必須通過 UL 列出的轉換器或 R/C 測量轉換器進行連接。禁止直接連接至線路電壓。

简体中文

工作溫度	-25 至 +55 °C/-13 至 +131 °F
存儲溫度	-25 至 +70 °C/-13 至 +158 °F
過電壓類別	類別III
功耗	AV5 3X: 1.4W/2.5VA AV5 3H: 1W/2VA
數字輸出	V _{ON} 2.5 V ac/dc，最大值 100 mA V _{OFF} 42 V ac/dc
重量	280 g

备注：相对湿度 < 90 % 非冷凝 @ 40 °C / 104 °F。

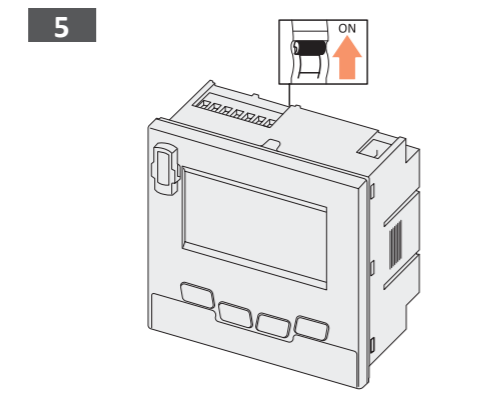
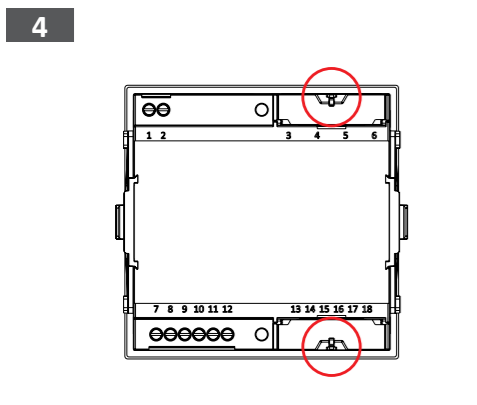
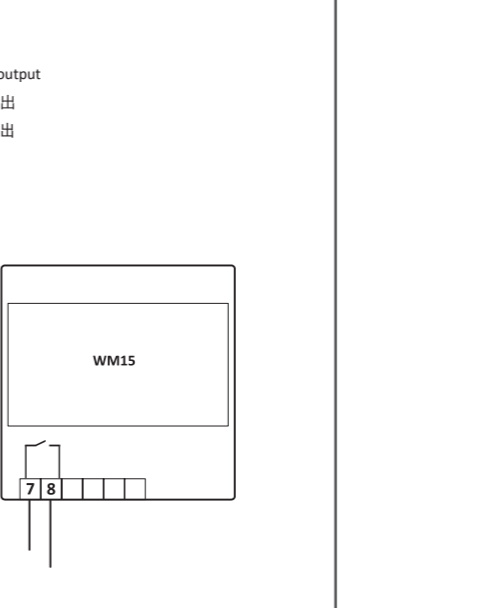
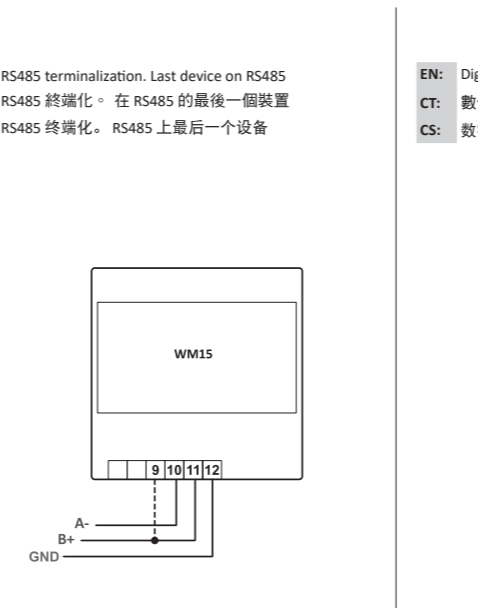
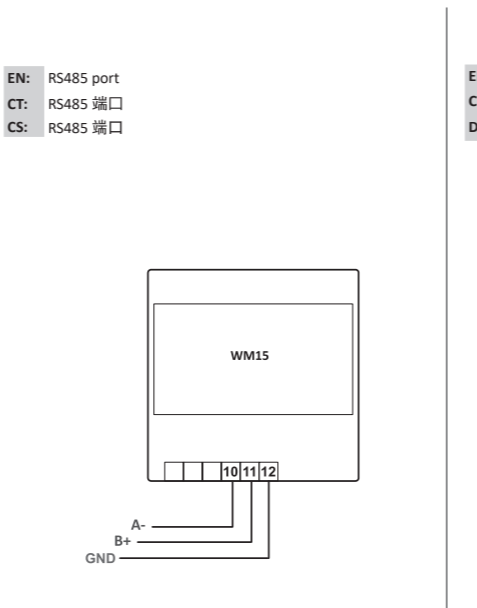
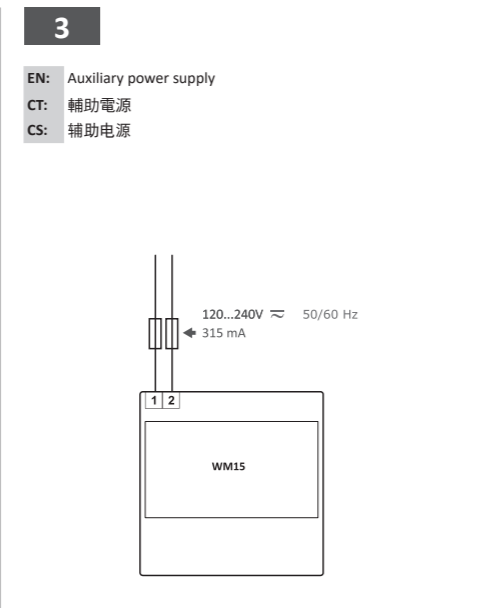
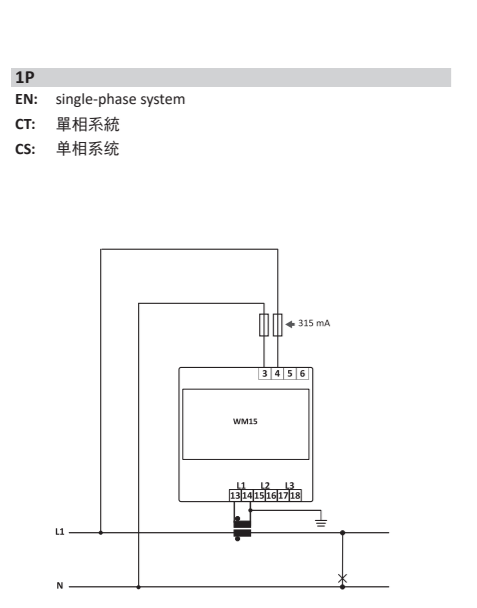
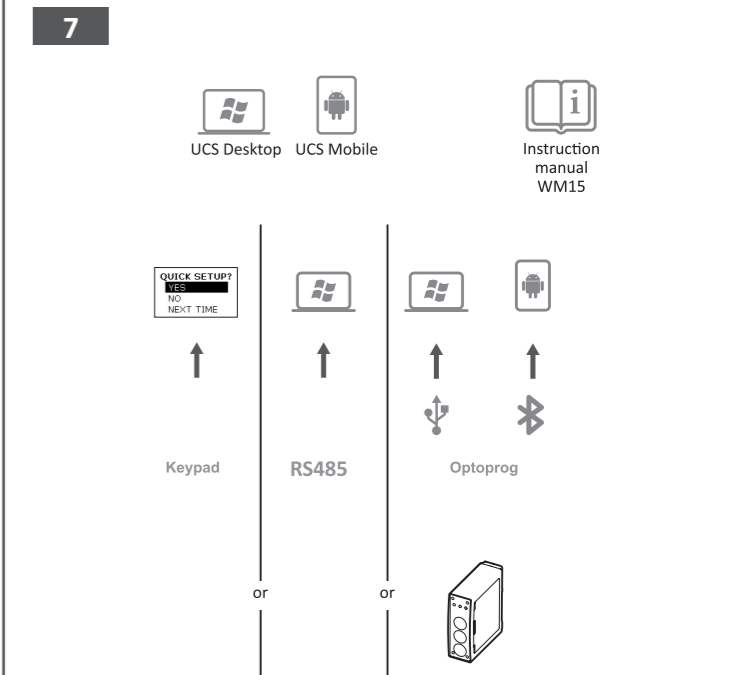
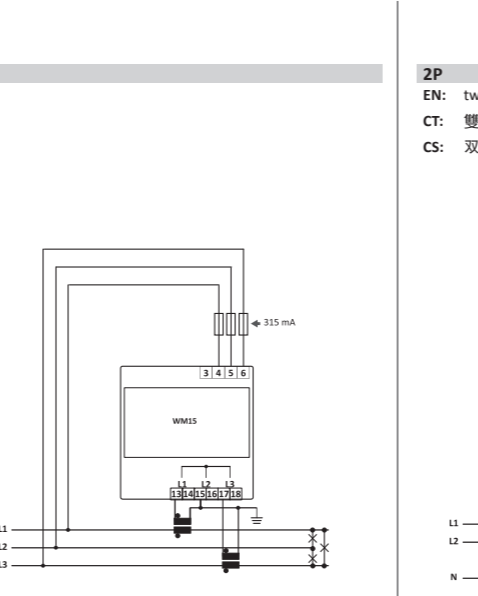
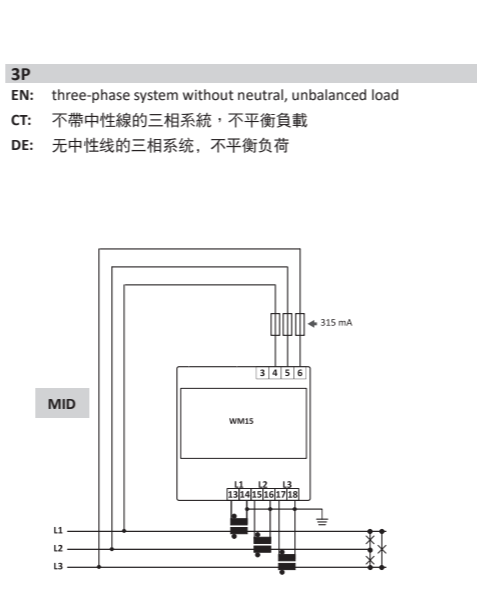
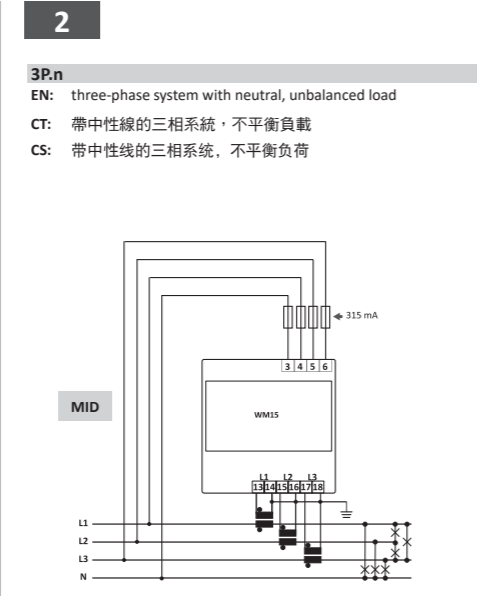
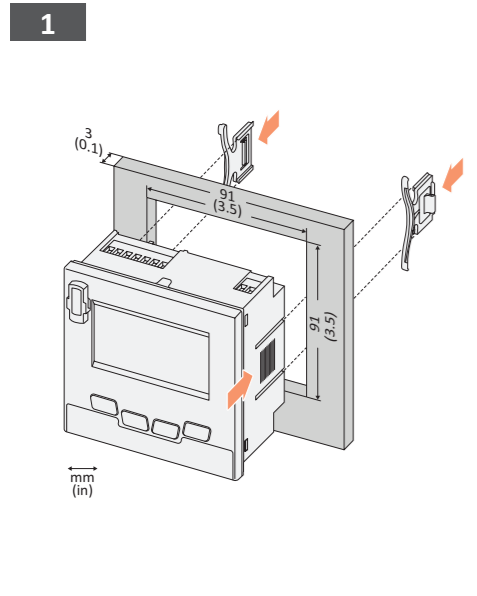
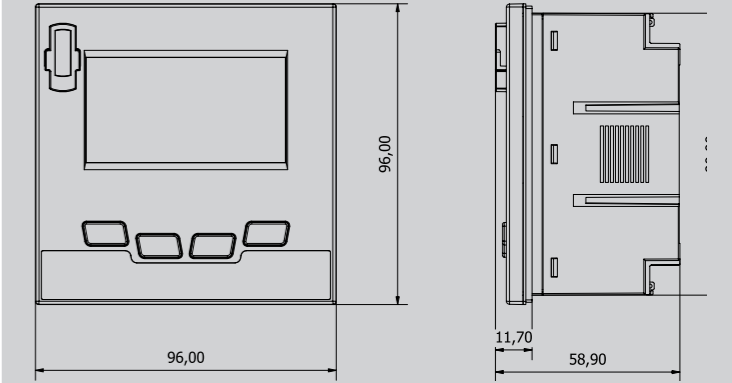
UL 备注：开放类设备，仅供室内使用。电流测量输入端子必须通过 UL 列出的变压器或 R/C 测量变压器进行连接。不允许直接连接线路电压。

Installing WM15 / 安裝 WM15 / 安裝 WM15

- Mount WM15 on the panel.
- Complete connections.
- Connect RS485, digital output and power supply 120...240 V ac/dc; 50/60 Hz.
- Seal the terminal caps (MID requirement)
- Turn on power and check correct operation.
- Complete the MID programming (only PF version). The CT ratio must be set before use. Once set, the CT ratio cannot be changed. Follow the guided procedure on the display to set the CT ratio.
- Configure WM15.

- 將 WM15 安裝在面板上。
- 完成連接。
- 連接 RS485、數位輸出和電源 120...240 交流/直流; 50/60 Hz。
- 密封端子蓋 (MID 規定)
- 打開電源，檢查是否正確運作。
- 完成 MID 程式化設定 (僅 PF 版本)。使用前必須先設定 CT 比率。設定完成後，不可變更 CT 比率。請遵循顯示器上的導引程序設定 CT 比率。
- 設定 WM15。

- 将 WM15 安装在面板上。
- 完成连接。
- 连接 RS485、数字输出和电源 120...240 V ac/dc; 50/60 Hz。
- 密封端子盖 (MID 要求)
- 打开电源，检查是否正常工作。
- 完成 MID 编程 (仅 PF 版本)。使用前必须设置 CT 比: CT 比一经设置便无法更改。请按照显示屏上的指导步骤设置 CT 比。
- 配置 WM15。



- User manual WM15 www.productselection.net/MANUALS/UK/WM15_im_use.pdf
- UCS Desktop www.productselection.net/Download/UK/ucs.zip
- UCS Mobile [Google Play Store](https://play.google.com/store/apps/details?id=com.gavazzi.ucs)



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