

EasyLogic™ PM1225H / PM1230H

en zh



MFR9440401-03



Schneider Electric

User manual / 用户手册

en MFR9440402
zh MFR9440403

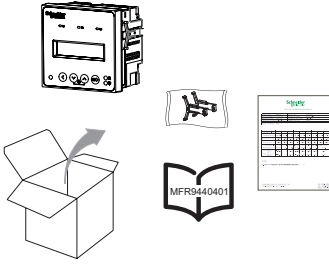


en To download user manuals and other documentation, visit www.se.com. Type PM1230H / PM1225H in search field. Refer to the user manual when you see this icon.

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要下载用户手册和其他文档，请访问 www.se.com。请在搜索字段中键入 PM1230H / PM1225H。如果看见此图标，请参考用户指南。

1



Commercial Reference	CL 1.0 RS-485	CL 0.5 RS-485	CE	UL	Relay / 继电器	Control Power / 控制电源
METSEPM1225HCL1	✓	-	✓	✓	-	1*
METSEPM1225HCL1LVD	✓	-	✓	✓	-	3*
METSEPM1225HCL5	-	✓	✓	✓	-	1*
METSEPM1225HCL5LVD	-	✓	✓	✓	-	3*
METSEPM1230HCL1	✓	-	✓	✓	✓	2*
METSEPM1230HCL5	-	✓	✓	✓	✓	2*
METSEPM1230HCL5LVD	-	✓	✓	✓	✓	3*

1*: 48 - 277 V L-N ± 10%, 48 - 277 V DC ± 10% (L1/L+, L2/L-)
2*: 60 - 277 V L-N ± 10%, 60 - 277 V DC ± 10% (L1/L+, L2/L-)

3*: 10 - 32 V DC ± 10% (+, -)

en Note: Do not use the product if it is damaged. Contact Schneider Electric customer care representative for support.
zh 注: 如果已损坏, 请勿使用该产品。欲获取支持, 请联系施耐德客户服务中心代表。

2

Safety Precautions / 安全措施

⚡ ⚠ DANGER / 危险

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- Apply appropriate personal protective equipment (PPE) and follow safe electrical work practices. See NFPA 70E in the USA or applicable local standards.
 - Turn off all power to this device before working on it.
 - Always use a properly rated voltage sensing device to confirm that all power is off.
 - Do not exceed the device's ratings for maximum limits.
 - Do not use this device for critical control or protection applications where human or equipment safety relies on the operation of the control circuit.
 - Always use grounded external CTs for current inputs.
- Failure to follow these instructions will result in death or serious injury.

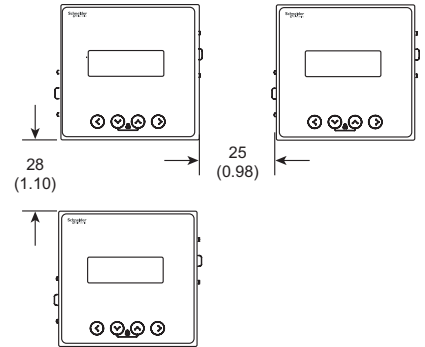
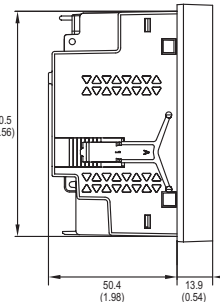
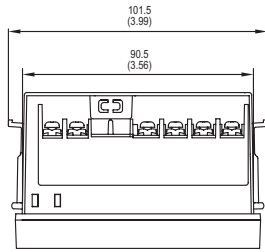
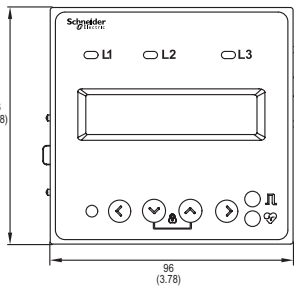
电击、爆炸以及弧光危险

- 请穿戴好人员保护设备 (PPE), 并遵守电气操作安全规程。请遵循美国的 NFPA 70E 或适用的当地标准。
 - 开始在设备上工作之前, 请先关闭该设备的所有电源。
 - 务必使用额定电压值正确的电压感应设备, 以确认所有电源均已关闭。
 - 切勿超过设备的额定最高限值。
 - 当人身或设备安全依赖于控制电路的工作时, 不要将本装置用于这样的关键控制或保护应用中。
- 若不遵循这些说明, 将会导致死亡或严重人身伤害。

3

Dimensions / 尺寸

mm (in)



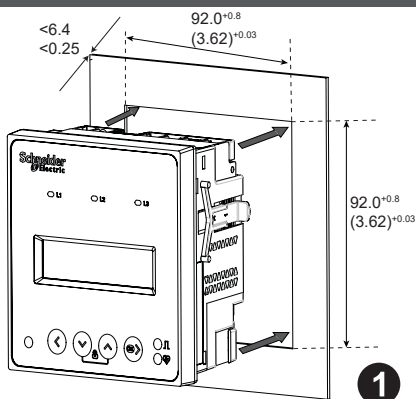
en Minimum clearance between mounted meters.

zh 所安装仪表之间的最小间隙。

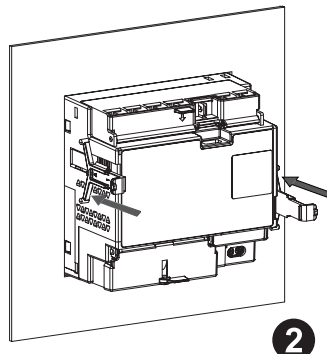
4

Mounting / 安装

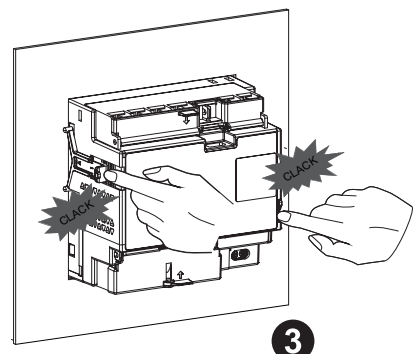
mm (in)



1



2



3

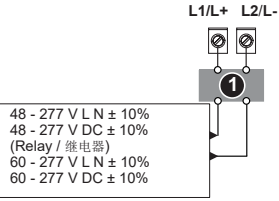
5 Control Power / 控制电源

NOTICE / 注意事项

HAZARD OF PRODUCT DAMAGE

Do not exceed the device's ratings for maximum limits.
Failure to follow these instructions can result in equipment damage.

产品损坏危险
切勿超过设备的额定最高限值。
如果不遵守这些说明, 则会导致设备损坏。



① 500 mA fuses

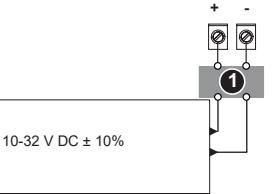
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L1/L+ and L2/L- are non-polarized. If using an AC power supply with neutral, connect neutral to the meter's L2/L- terminal. Always use a fuse on L1/L+. Fuse L2/L- when connecting an ungrounded neutral to the control power. If using a control power transformer, fuse both primary and secondary sides of the transformer. The fuses / circuit breakers must be rated for the installation voltage and sized for the available fault current.

① 500 mA fuses

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L1/L+ 和 L2/L- 是无极性的。如果使用带中性线的交流电源, 将中性线连至仪表的 L2/L- 端子。始终在 L1/L+ 上使用熔丝。将未接地中性线连接到控制电源时, 请在 L2/L- 上使用熔丝。如果使用控制电源互感器, 则在互感器的一次和二次两侧都要使用熔丝。熔丝和断路器的额定值必须与设备电压一致, 并调整为可能出现的故障电流大小。



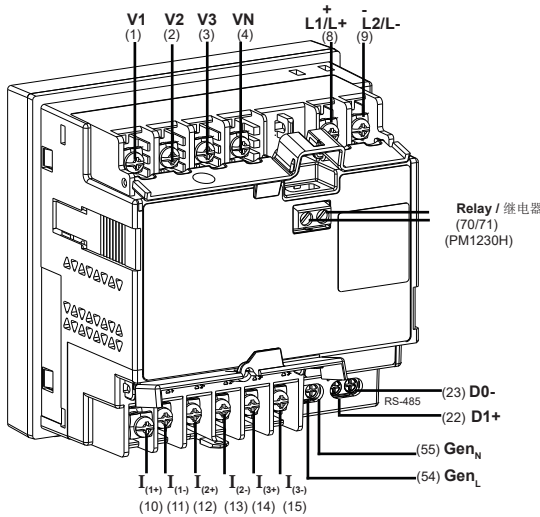
① 500 mA fuses

+ and - are polarized. Connect + to positive and - to negative of the DC power supply. Always use a fuse on +. The fuses / circuit breakers must be rated for the installation voltage and sized for the available fault current.

① 500 mA 熔丝

+ 和 - 是有极性的。将 + 连接到直流电源的正极, 将 - 连接到直流电源的负极。始终在 + 上使用熔丝。熔丝和断路器的额定值必须与设备电压一致, 并调整为可能出现的故障电流大小。

6 Wiring / 接线



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Straight-line topology only. Loop or ring topology is not supported.

Note: Resistor is an optional accessory that you can buy separately. To terminate a series, it is recommended to use a 120 Ω / 0.5 W resistor.

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仅限直线拓扑图, 不支持环形拓扑。

注: 电阻为可选件, 可以单独订购。要端接该系列产品, 建议使用 120 Ω / 0.5 W 电阻。

	Potential Transformer / 电压互感器	Current Transformer / 电流互感器	N.O (normally open) switch / 常开开关	
IEC				
ANSI				

V1, V2, V3, VN				
+ , - (METSEPM1225HCL1LVD / METSEPM-1225HCL5LVD / METSEPM1230HCL5LVD)	0.82 - 3.31 mm ² (18 - 12 AWG)	0.28 in (7 mm)	0.9 - 1.0 N·m (8.0 - 9.0 in·lb)	PH1/PH2
L1/L+, L2/L- (METSEPM1225HCL1 / METSEPM1225HCL5 / METSEPM1230HCL1 / METSEPM1230HCL5)				
I ₁₊ , I ₁₋ , I ₂₊ , I ₂₋ , I ₃₊ , I ₃₋	2.08 - 3.31 mm ² (14 - 12 AWG)	3.68 mm ± 0.08 [1.45 in ± 0.003] DIA 6.35 mm [0.250 in] MAX		
Gen _N , Gen _L (METSEPM1230HCL1 / METSEPM-1230HCL5 / METSEPM1230HCL5LVD)	0.33 - 3.31 mm ² (22 - 12 AWG)	0.24 in (6 mm)	0.5 - 0.6 N·m (4.4 - 5.3 in·lb)	PH1
Relay / 继电器				
D0-, D1+ Recommended cable / 推荐电缆	RS-485: Belden 3105A / Belden 3106A or equivalent / RS-485: Belden 3105A / Belden 3106A 或等效电缆			

Direct connect maximum voltage / 直连最大电压					
Power system configuration types / 电源系统配置类型 ¹					
Maximum voltage at terminals / 端子上的最大电压 (UL / IEC)	≤ 277 V L-N / 480 V L-L (CAT III)	≤ 480 V L-L (CAT III)	≤ 480 V L-L (CAT III)	≤ 277 V L-N (CAT III)	≤ 277 V L-N / 480 V L-L (CAT III)

¹ The meter display allows configuration of 5 power system types, additional 8 can be configured through ION setup. / 通过测量仪显示屏可以配置 5 种电力系统类型, 另外 8 种可通过 ION Setup 进行配置。

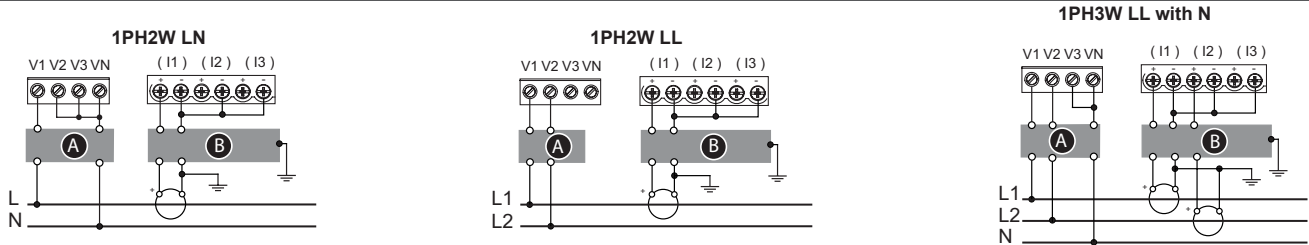
- en**
- A** 500 mA fuses / circuit breaker #
 - B** Shorting block#
 - C** PT primary fuses and disconnect switch #
 - # not supplied
 - ◆ indicates wiring for a balanced system

- zh**
- A** 500 mA 熔丝 / 电路断路器 #
 - B** 短接块 #
 - C** PT 一次电路熔丝和隔离开关 #
 - # 未配备
 - ◆ 表示一个平衡系统的接线

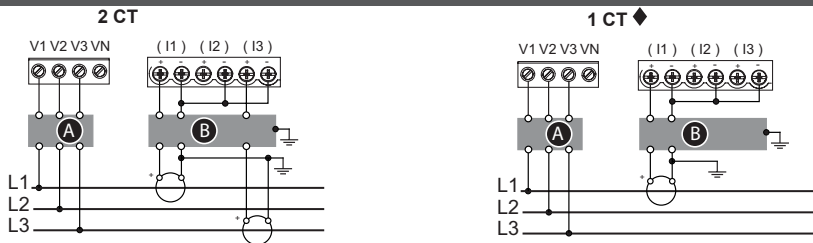
Clearly label the device's disconnect circuit mechanism and install it within easy reach of the operator. The fuses / circuit breakers must be rated for the installation voltage and sized for the available fault current. Fuse for neutral terminal is required if the source neutral connection is not grounded.

清楚标明装置的断路机制, 并将其安装在操作员易触及的位置。熔丝和断路器的额定值必须与设备电压一致, 并调整为可能出现的故障电流大小。如果电源中性线未接地, 需要为中性线安装熔丝。

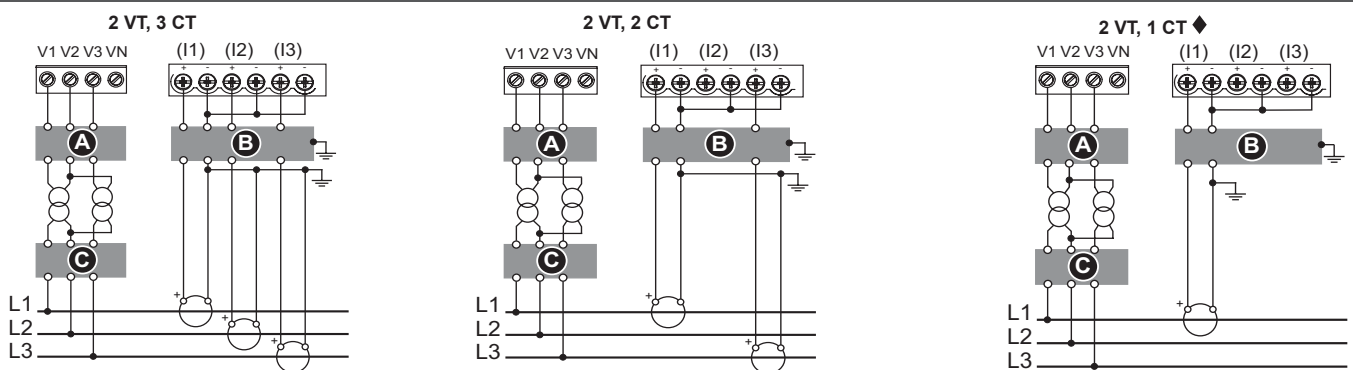
1PH



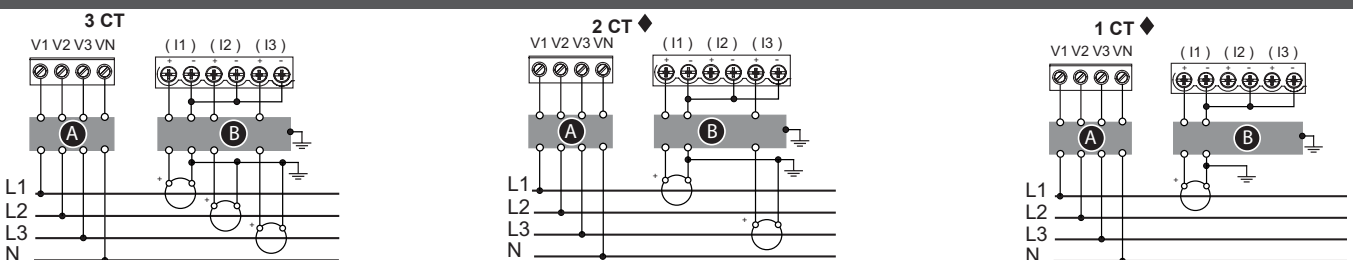
3PH3W



3PH3W



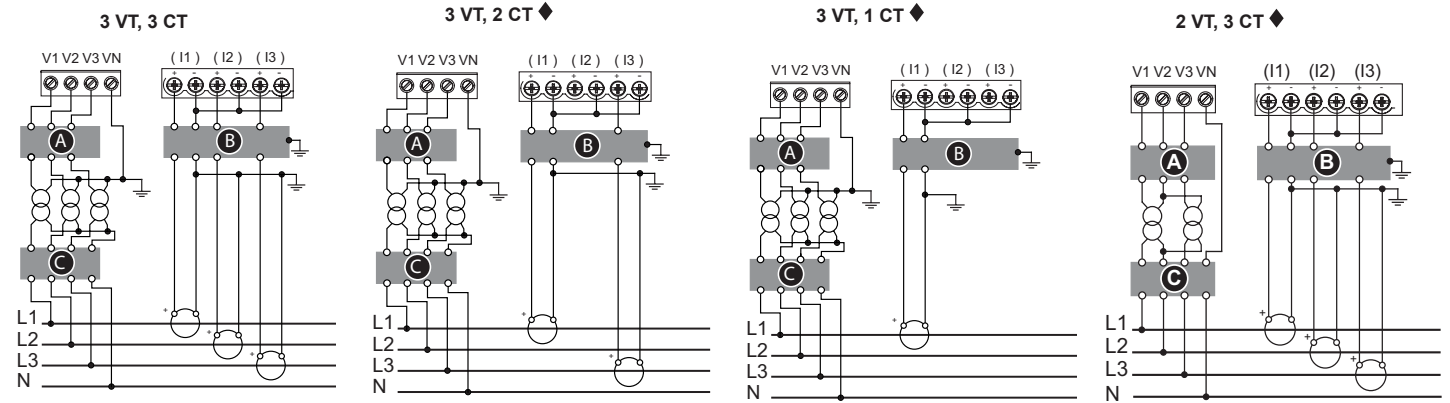
3PH4W



6

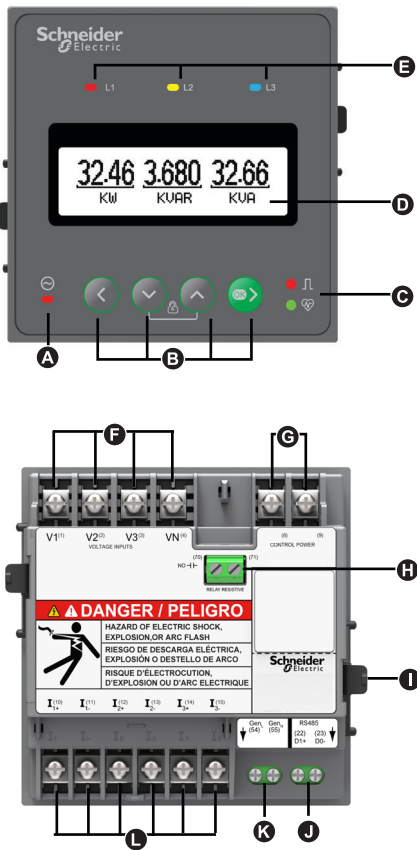
Wiring / 接线

3PH4W



7

Description / 说明

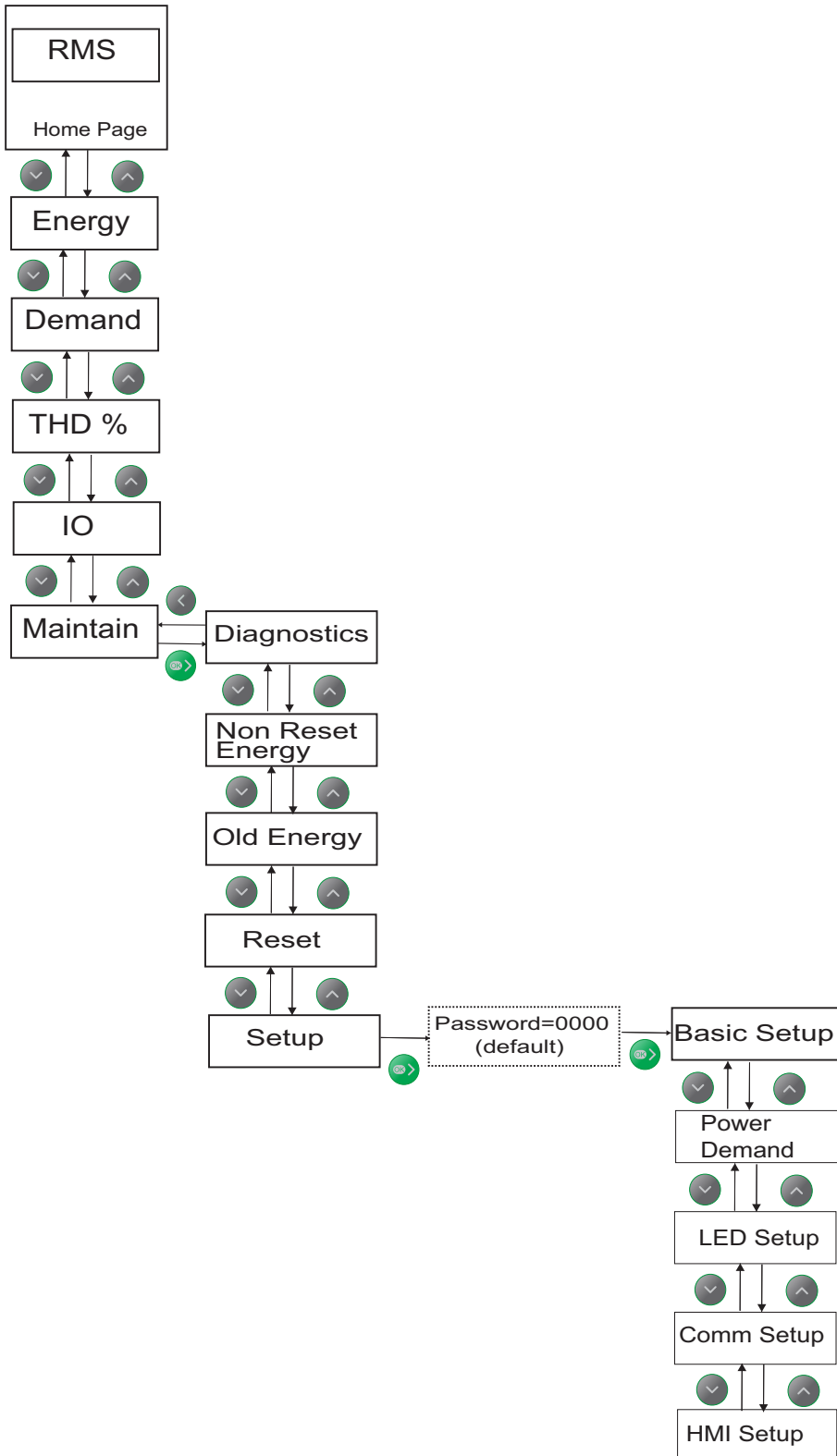


en

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A	LED indicator (Alternate source)	LED 指示灯 (其他来源)
B	Menu selection buttons	菜单选择按钮
	◀ Left key: To navigate left / Escape	◀ 向左键: 向左导航
	▼ Down key: To navigate down	▼ 向下键: 向下导航
	▲ Up key: To navigate up	▲ 向上键: 向上导航
	⏹ Right/OK key: To navigate right / Enter	⏹ 向右/确定键: 向右导航/输入键
C	LED indicators : Pulse : Heartbeat	LED 指示灯 : 脉冲 : 心跳
D	LCD	指示灯
E	Voltage line indicators	电压线指示灯
F	Voltage inputs	电压输入
G	Control power	控制电源
H	Relay (PM1230H)	继电器 (仅限 PM1230H)
I	Retainer clip	安装卡棒
J	RS-485	RS-485
K	Alternate source (e.g. Genset)	其他来源 (例如发电机组)
L	Current inputs	电流输入



en

Perform basic setup:

1. Navigate to **Maintain > Setup > Basic Setup**.
2. Edit all the meter parameters to match your power system and electrical wiring.
3. Exit and save your settings.

Set up communications:

1. Navigate to **Maintain > Setup > Comm Setup**.
2. Edit all parameters to match your network communications.
3. Exit and save your settings.

Note: IO module applicable for PM1230H model.

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执行基本设置:

1. 导航至 **Maintain > Setup > Basic Setup**。
2. 编辑所有测量仪参数，使其与您的电力系统和电气接线相匹配。
3. 退出并保存您的设置。

设置通讯:

1. 导航至 **Maintain > Setup > Comm Setup**。
2. 编辑所有参数，使其与您的网络通讯相匹配。
3. 退出并保存您的设置。

注: IO 模块适用于 PM1230H 型号。

8.1 Setup parameters / 设置参数

8.1.1 Basic Setup

Power System	Power System Configurations; [1PH2W LN, 1PH2W LL, 1PH3W LL, 3PH3W Dlt, 3PH4W Wye] Default: 3PH4W Wye
VT Connect	VT: Voltage Transformer; [Direct Con,1VT, 2VT, 3VT] Default: Direct Con Note: The VT Connect parameters are enabled based on selected power system configuration.
VT Primary(V)	Primary Voltage (V L-L); [100 V - 999000 V] Default: 415 Note: VT.Primary(V) will not be enabled if VT Connect is Direc Con.
VT Sec(V)	Secondary Voltage (V L-L); [100, 110, 115, 120, 415] Default: 415 Note: VT Sec(V) will not be enabled if VT Connect is Direct Con.
CT on Term	Current Transformer; [A1, A2, A3, A12, A23, A31,A123] Default: A123 Note: The CT terminal parameters are enabled based on the selected power system and VT connect configuration.
CT Primary(A)	CT Primary; [1 A - 32767 A] Default: 100
CT Sec(A)	CT.Sec: CT Secondary; [1A, 5 A] Default: 5
Sys Freq(Hz)	System Frequency; [50 Hz, 60 Hz] Default: 50
A.Suppress	A. Suppression (Minimum current at which meter functions); [1 to 99 mA] Default: 5
Label	Label:Phase labelling; [123, ABC, RST, PQR, RYB] Default: 123
Full Scale%	Full scale value (Rescaling CT loading); [1 - 100] Default: 100
Param Select	Parameter selection; [VA, W, VAR] Default: W Note: Based on the param select parameter,energy and power will be displayed for PM1230H model.
Poles	To determine RPM of alternator/generator based on number of poles and network frequency; [02, 04, 06, 08, 10, 12, 14, 16] Default: 04
Source1	Source1; [0-9,A-W,Y] Default: U
Source2	Source2; [0-9,A-W,Y] Default: G

8.1.2 Power Demand Setup

Method	Power demand; [Timed Block, Timed Rolling, Timed Sliding] Default: Timed Block
Parameter	Demand parameter; [VA, VAR, W] Default: VA
Interval	Demand period; [1 - 60] Default: 15
Sub Interval	Demand update time; [1 to 60] Default: 15 Note: Sub Interval is enabled when Method is Timed Rolling

8.1.3 LED Setup

LED Mode	[OFF, Energy] Default: OFF Note: Pulses/(k_h) is enabled when LED Mode is Energy.
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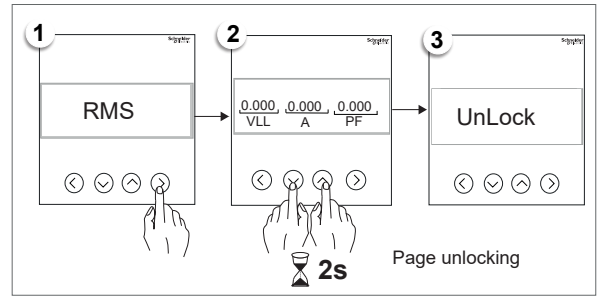
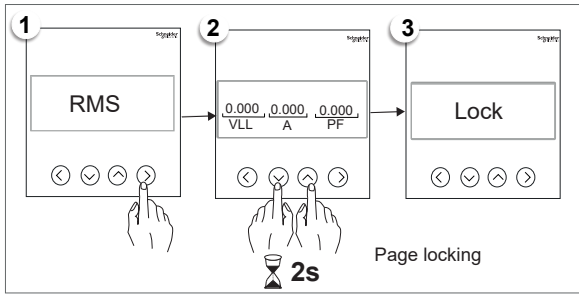
8.1.4 Communication Setup

Comm	COMM: Communication; [ON, OFF, Retrofit] Default: ON ON/OFF: To enable / disable communications port. Retrofit: For configuring legacy communication data models
Address	Address: Unit Id; [1 - 247] Default: 1
Baud Rate	Baud rate: BPS (Bits per second); [4800, 9600, 19200, 38400] Default:19200
Parity	Parity: Parity; [Even, Odd, None] Default: Even

8.1.5 HMI Setup

Contrast	Contrast; [1 - 9] Default: 5
Bcklght T.Out	Backlight time out; [0 - 60] Default: 5
Password	Password; [0000 - 9999] Default: 0000

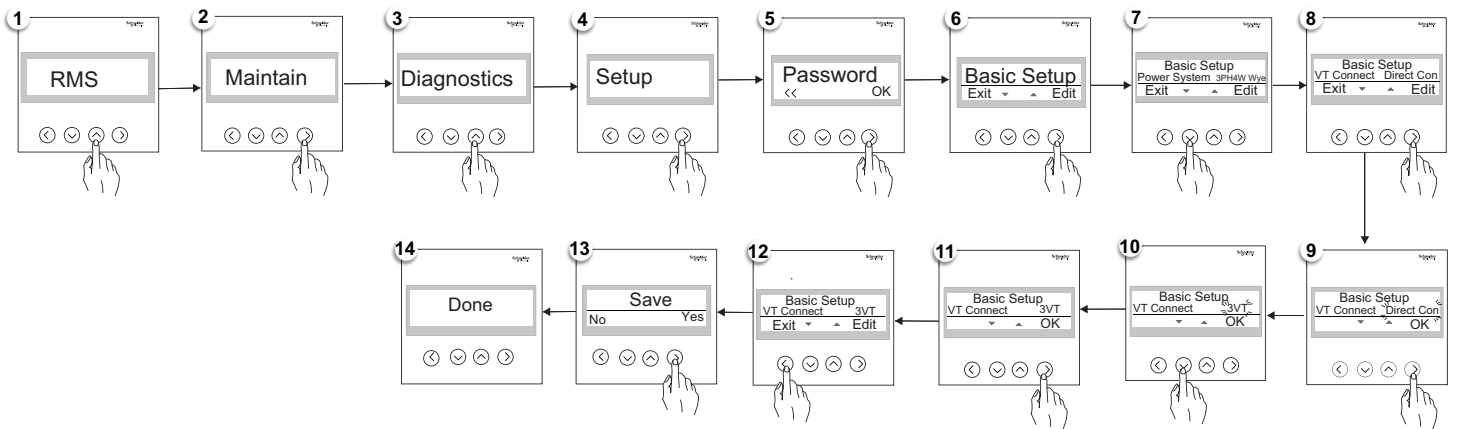
8.2 Page lock / unlock / 页面锁定/解锁



- en** •Page lock sets the current page as the default page.
•You cannot enter the Setup page when a meter page is locked.

- zh** •页面锁定将当前页面设置为默认页面。
•测量仪页面锁定时，无法进入设置页面。

8.3 Basic Setup example: Changing VT parameter (Direct Con to 3VT) / 基本设置示例：更改 VT 参数（从 Direct Con 变为 3VT）



en

Control power
(METSEPM1225HCL1
METSEPM1225HCL5)
• AC: 48 - 277 V L-N \pm 10%
• AC Burden: <4 VA at 240 V L-N, 50 Hz
• DC: 48 - 277 V DC \pm 10%
• DC burden: <2 W at 240 V DC
• Installation category III

Control power
(METSEPM1230HCL1
METSEPM1230HCL5)
• AC: 60 - 277 V L-N \pm 10%
• AC burden: <6 VA at 240 V L-N, 50 Hz
• DC: 60-277 V DC \pm 10%
• DC burden: <3 W at 240 V DC
• Installation category III

Control power
(METSEPM1225HCL5LVD
METSEPM1225HCL1LVD)
• DC: 10 - 32 V DC \pm 10%
• DC Burden: <2 W at 24 V DC
• Installation category III

Control power
(METSEPM1230HCL5LVD)
• DC: 10 - 32 V DC \pm 10%
• DC Burden: <2.5 W at 24 V DC
• Installation category III

Voltage inputs
• Measured voltage: 80 - 480 V L-L \pm 10%
• Frequency: 50/60 Hz \pm 2 Hz
• Permanent overload: 750 V L-L continuous
• Impedance: 5 M Ω
• Burden: \leq 0.2 VA maximum (240V L-N, 50 Hz)
• Measurement category III, 480 V L-L

Current inputs
• 1 A or 5 A nominal
• Measured current:
Current range (5 A nominal): 50 mA - 6 A,
Current range (1 A nominal): 10 mA - 1.2 A
• Withstand: 10 A continuous
• Impedance: 0.3 m Ω
• Burden: \leq 0.1 VA max @5 A, 50 Hz
• Suppression current: 5 mA - 99 mA

Relay
• 300 V L-N AC maximum / 2 A;
• 24 V DC / 2 A

Alternate source
AC: ON: 80-300 V L-N
OFF: 0-30 V L-N
DC: ON: 18-60 V DC
OFF: 0-4 V DC

Environment
• Operating temperature: -10 to 60 °C (14 to 140 °F)
(Display functions to -5 °C (23 °F) with reduced performance)
• Storage temperature: -25 to 70 °C (-13 to 158 °F)
• Humidity: 5% to 95% RH non-condensing at 37°C (98.6°F)
• Pollution degree 2
• Altitude: \leq 2000 meters (6562 ft)
• Front IP51 (IP54 w/ gasket)
• Rear IP30-as per IEC 60529
• Not suitable for wet locations
• For indoor use only



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控制电源
(METSEPM1225HCL1
METSEPM1225HCL5)
• 交流: 48-277 V L-N \pm 10%
• 频率: 45-65 Hz
• 交流功耗: <4 VA, 在 240 V L-N, 50 Hz 时
• 直流: 48-277 V DC \pm 10%
• 直流功耗: <2 W, 在 240 V DC 时
• 安装类别 III

控制电源
(METSEPM1230HCL1
METSEPM1230HCL5)
• 交流: 60-277 V L-N \pm 10%
• 交流功耗: <6 VA, 在 240 V L-N, 50 Hz 时
• 直流: 60-277 V DC \pm 10%
• 直流功耗: <3 W, 在 240 V DC 时
• 安装类别 III

控制电源
(METSEPM1225HCL5LVD
METSEPM1225HCL1LVD)
直流: 10-32 V DC \pm 10%
直流功耗: <2 W, 在 24 V DC 时
安装类别 III

控制电源
(METSEPM1230HCL5LVD)
直流: 10-32 V DC \pm 10%
直流功耗: <2.5 W, 在 24 V DC 时
安装类别 III

电压输入
• 测量电压: 80-480 V L-N \pm 10%
• 频率: 50/60 Hz \pm 2 Hz
• 持久过载: 750 V L-L (连续)
• 阻抗: 5 M Ω
• 功耗: \leq 0.2 VA (240 V L-N, 50 Hz)
• 测量类别 III, 480 V L-L

电流输入
• 额定 1 A 或 5 A
• 测量电流:
电流范围 (额定 5 A): 50 mA 至 6 A,
电流范围 (额定 1 A): 10 mA 至 1.2 A
• 耐受值: 10 A 连续

• 阻抗: 0.3 m Ω
• 功耗: 最大 \leq 0.1 VA, 在 5 A, 50 Hz 时
• 抑制电流: 5 mA-99 mA



继电器
• 最大 300 V L-N AC / 2 A,
• 24 V DC / 2 A

其他来源
AC: 开: 80-300 V L-N
关: 0-30 V L-N
DC: 开: 18-60 V DC
关: 0-4 V DC

环境
• 工作温度: -10 至 60 °C (14 至 140 °F)
(温度为 -5 °C (23 °F) 时, 显示功能将有所下
降)

• 存放温度: -25 至 70 °C (-13 至 158 °F)
• 湿度: 5% 至 95% RH 无冷凝, 温度为 37°C
(98.6°F)
• 污染等级 2
• 海拔高度: \leq 2000 米 (6562 英尺)
• 前面 IP51 (有衬垫时 IP54)
• 后面 IP30 - 依照 IEC 60529
• 不适合潮湿的场所
• 仅限室内使用

China ROHS Certificate

The "Administrative Measures for the Restriction of Hazardous Substances in Electric Appliance and Electronic Products" requires this document to be shipped with all PM1225H/ PM1230H products to the People's Republic of China. Purchasers in other countries may disregard.

Les "Administrative Measures for the Restriction of Hazardous Substances in Electric Appliances and Electronic Products" exige que ce document soit transporté avec tous les produits de PM1225H / PM1230H en République Populaire de Chine. Les acheteurs des autres pays peuvent le négliger.

Las "Administrative Measures for the Restriction of Hazardous Substances in Electric Appliances and Electronic Products" requiere que este documento sea enviado con todos los productos PM1225H / PM1230H a la República Popular de China. Los usuarios en otros países pueden ignorar este documento.

Product/ Produit/ Producto: Easylogic™ PM1225H / PM1230H
(METSEPM1225HCL1 / METSEPM1225HCL1LVD / METSEPM1225HCL5 / METSEPM1225HCL5LVD
METSEPM1230HCL1 / METSEPM1230HCL5 / METSEPM1230HCL5)



产品系列：电力量度器仪及配件

部件名称 Part Name	产品中有毒有害物质或元素的名称及含量 Hazardous Substances					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr(VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
金属部件 Metal parts	O	O	O	O	O	O
塑料部件 Plastic parts	O	O	O	O	O	O
电子线路板 PCBA	x	O	O	O	O	O

本表格依据 SJ/T11364 的规定编制。

O = 表示该有毒有害物质在该部件所有均质材料中的含量均在 SJ/T11363-2006 标准规定的限量要求以下。

X = 表示该有毒有害物质至少在该部件的某一均质材料中的含量超出 SJ/T11363-2006 标准规定的限量求。

This table is made according to SJ/T 11364.

O: indicates that the concentration of hazardous substance in all of the homogeneous materials for this part is below the limit as stipulated in GB/T 26572.

X: indicates that concentration of hazardous substance in at least one of the homogeneous materials used for this part is above the limit as stipulated in GB/T 26572.

Notices / 注意

en Read these instructions carefully and look at the equipment to become familiar with the device before trying to install, operate, service or maintain it.

Electrical equipment should be installed, operated, serviced and maintained only by qualified personnel. No responsibility is assumed by Schneider Electric for any consequences arising out of the use of this material. A qualified person is one who has skills and knowledge related to the construction, installation, and operation of electrical equipment and has received safety training to recognize and avoid the hazards involved.

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- This product must be installed, connected and used in compliance with prevailing standards and/or installation regulations.
- If this product is used in a manner not specified by the manufacturer, the protection provided by the product may be impaired.
- The safety of any system incorporating this product is the responsibility of the assembler/installer of the system.

As standards, specifications and designs change from time to time, always ask for confirmation of the information given in this publication.

zh 在尝试安装、操作、维修或维护该设备之前，务必仔细阅读这些说明，并对照设备查看以熟悉它。

电气设备应仅由经过认证的技术人员进行安装、操作、维护和维修。由于误用本材料而导致的任何后果，Schneider Electric 公司概不负责。经过认证的技术人员是指该人员拥有与电气设施的 架设、安装和操作相关的技能和知识，并且受过安全培训，能够识别和避免所涉及的危险。

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- 如果使用本产品的方式不是制造商指定的方式，可能造成产品本身的保护功能受损。
- 将本产品纳入其中的任何系统的安全由该系统的组装/安装人员负责。

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