SMB350 Multi-circuit Energy Meter

SMB350

Smart for Greenlife !

Features

Measurement

- Simultaneously monitor up to eight 3-phase or 24 single phase circuit loads.
- Measures the voltage, current, kW, kWh, kVAr, kVArh, and pf.
- Data refresh rate: 1 second
- Small and compact space saving design
- Wide selection of solid core or split core dedicated CTs.
- Equipped with 16 character by 2 line LCD display for displaying the measured parameters and changing the settings. Optional touch panel display also available.
- Industry standard Modbus protocol over RS485 interface.
- High accuracy: voltage and current, 0.5%; kWh: 1%

ACS Touch Panel

- Remotely displays the various measured parameters.
- The 7" model has the Ethernet option which allows
- mirroring with a host computer.
- Colored LCD display with touch panel operator
- interface.
- Graphical user interface with multiple page navigation.

  CE, UL, FCC approved

Overview

- The SMB350 is a multi-circuit energy metering module that can simultaneously monitor up to eight 3-phase
- or 24 single phase circuit loads.

  The SMB350 can measure the common voltage and individual current, kWh, kWh, kVAr, kVArh and pf for each load on the common power bus and display
- them through the LED or send them through its RS485
- interface to a computer host.

  Loads cannot be directly connected to its current input, but must first pass through external CTs.

  Big benefits in a small package.
- The SMB350 has a small footprint and can be installed where multiple traditional meters would not fit. It is
- suitable even for the retrofitting of existing power panels, which results in lower installation costs for both material and labor.

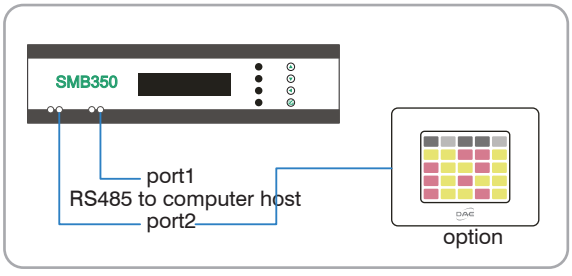
  The ACS70 is the remote viewing optional expansion for the SMB350, it is available in 5 or 7 inch screen sizes and can be installed in a power panel.

  The ACS70 has a page based navigation, each circuit load can have its own name and display its various measured parameters. The ACS50 offers the ideal cost to performance ratio.

Applications

- Branch circuit monitoring
- Load surveying
- Data communications equipment room load monitoring
- Building automation monitoring system
- Lighting failure monitoring

System Architecture



SMB350+ACS70 datasheet_3.1e_p1_ai 5F, No.157, Xinhu 1st Rd., Neihu Dist., Taipei City 114, Taiwan, R.O.C. TEL：+886-2-2793-6123 FAX：+886-2-2793-6150 sales@DAEinstrument.com

ACS70

- Remote display for reading the various measured parameters (can be panel mounted).
- With the optional Ethernet module, the ACS70 can connect with a PC to synchronously display the same operator interface.
- Set the clock time, the name for each circuit load, downloaded from the USB with data edited using a PC.
- Touch panel operation on a color LCD screen.
- Multi-page interface and navigation.

Screenshots

Measured Parameters

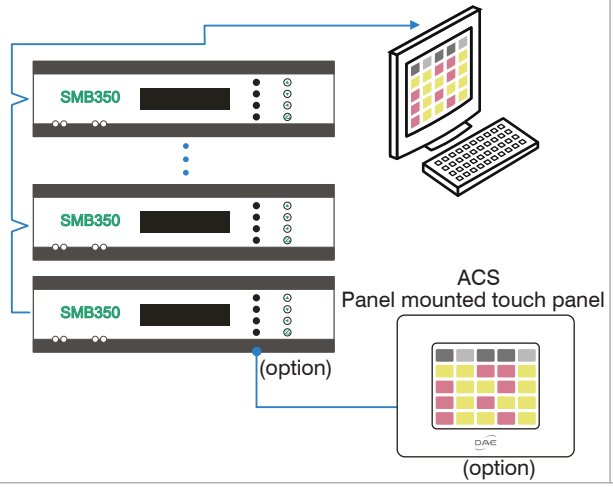
Parameter	Phase			Total
	A	B	C	
Current	V	V	V	V
Phase Voltage	V	V	V	V
Line Voltage	V	V	V	V
kW	V	V	V	V
kWh	V	V	V	V
kVArh	V	V	V	V
power factor	V	V	V	V

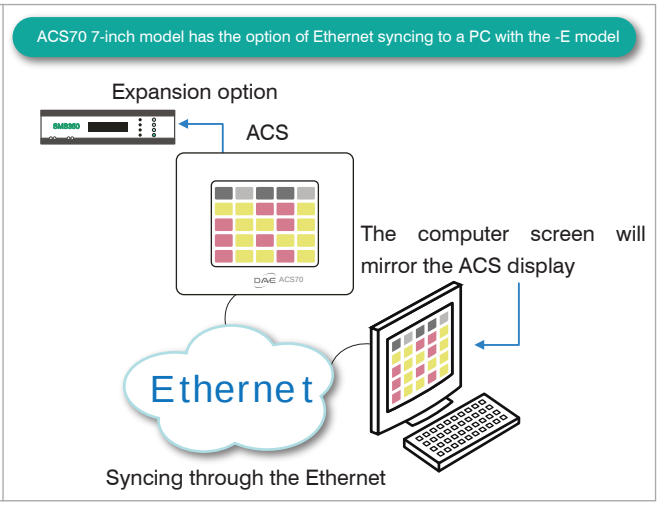
Current

Power Factor

Voltage

System Architecture





(Each ACS70 can connect up to 5 metering devices

Specifications

SMB350 Specifications

Common Voltages	A/B/C/N
Input Channels (current)	SMB350-8: 8 3-phase or 24 single phase SMB350-4: 4 3-phase or 12 single phase
Current Measurement	Using external 5A/50A/100A/200A dedicated CT (selected separately, see page 4)
Voltage Measurement	Max Voltage: 350VAC (L-N), 600VAC (L-L), 60Hz
Display	2 lines by 16 characters LCD display
Auxiliary Power	AC 110 or 220V, ±15%
Settable Parameters	Address, baud rate, CT ratio for each channel (for 5A CT only) from 1~2000 (equivalent to 10000A)
Operating Environment	Temperature: 0~70˚C; Humidity: 5~95% RH (non-condensing)
Mounting	DIN rail
Data Refresh Rate	One second (each channel has its own ADC operating at 78K samples per second (1300 times @ 60Hz)
Accuracy	Voltage and Current: 0.5% kWh: 1% (with dedicated solid core 5A CT) / (the same as the CT when used with dedicated split core CTs)
Host Communication Port	2 wire RS485, data format 8/n/1, address 1~254 Modbus/RTU protocol Baud rates supported: 1200, 2400, 4800, 9600 Response time: 200msec
ACS Communication Port	2 wire RS485
Memory	64k ROM
Reliability Standards	Surge Withstand Capability: IEC61000-4-5: 4kV Voltage Insulation: IEC60255-1, 1.5kV surge Temperature Test: IEC60068-2-2: 70˚C Vibration Test: IEC60068-2-35: 1.5G CE certification CE UL certification UL

ACS Specifications (option)

*(Range：5%-100%, PF：0.8-1.0)

Model	ACS-50	ACS-70	ACS-70E
LCD size and resolution	5”，320*234 pixels	7”，800*480 pixels	7”，800*480 pixels
Colors	65536	65536	65536
User Interface	English or Chinese language, graphical page based navigation		
Functionality	Displays the names and measurement parameters for each channel		
Ethernet	none	none	IEEE802.3,IEEE803.3u,10/100Mbps
LED backlight	20000 hours @25˚C with automatic self protection		
Communication	RS485 port for connecting with SMB350, USB for downloading data		
CPU/memory	CPU32bit/8MB	CPU32bit/64MB	CPU32bit/64MB
Memory card (SDHC)	no	no	yes
Input Power	DC24V(-10%~-15%)/3W	DC24V(-10%~-15%)/5W	DC24V(-10%~-15%)/7.5W
Speaker	85dB,Multi-Tone(2K-4KHz)		
Time set up	Time and date (perpetual calendar)		
Configuration set up	Set higher and lower limits and names for each channel (upload from USB)		
Protection**	Vibration: EN61131-2 Display water and dirt proofing: IP65/NEMA Operating Temperature: 0~50˚C, 10~90%RH		
Certifications**	CE Approved FC Approved UL Approved		

** The hardware uses the DOP-B and all certifications therein are applicable here as well.

Ordering

Note: CT required, refer to page 4 for selection

Order Code	Description	Order Code	Description
SMB350-4	Four 3-phase (or 12 single phase)channels	ACS-50	5” Touch Panel for SMB350
SMB350-8	Eight 3-phase (or 12 single phase)channels	ACS-70	7” Touch Panel for SMB350
		ACS-70E	7” Touch Panel for SMB350 with Ethernet

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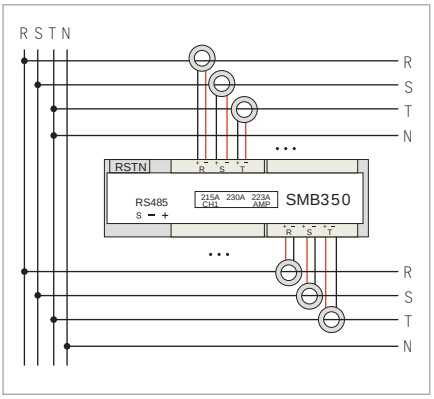
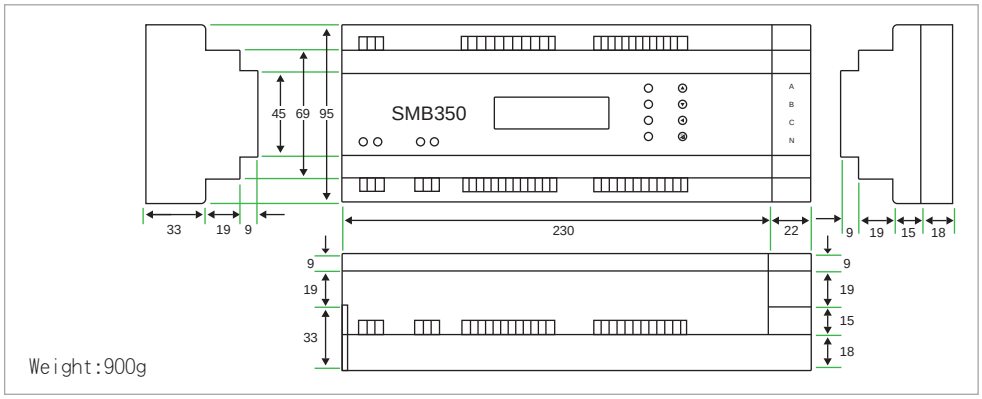
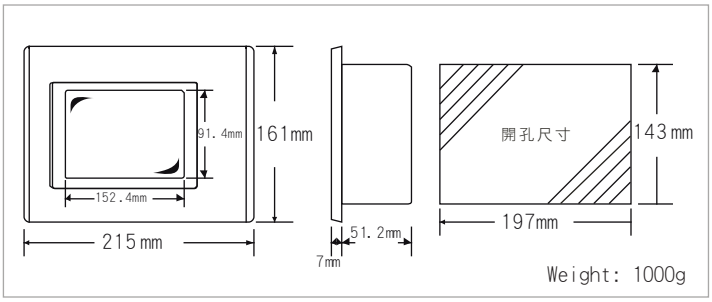
Specifications

Dimensions

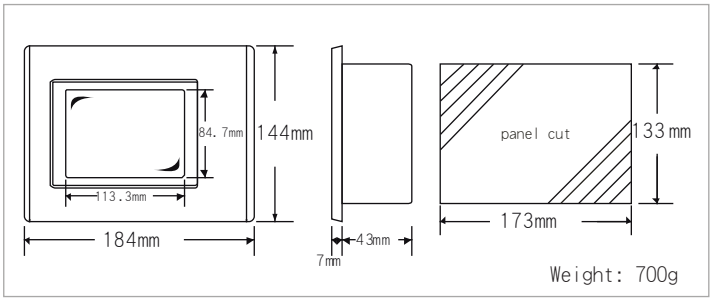




Dimensions (ACS 7")



Dimensions (ACS 5")

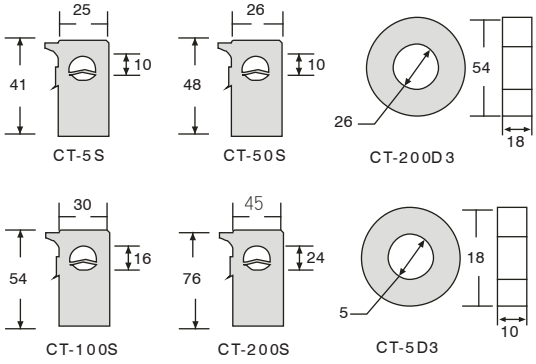


CT Selection

Dedicated Solid Core
CT200D3

Dedicated Split Core
CT5S/CT50S/
CT100S/CT200S

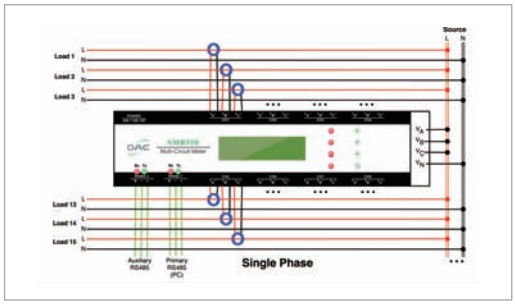
Dedicated Solid Core
CT5D3

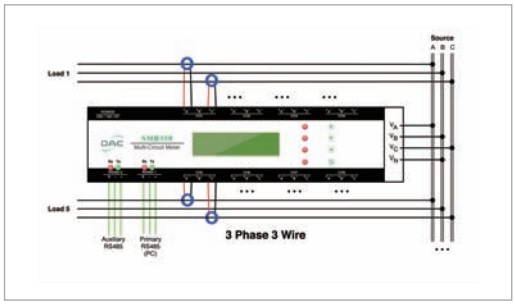


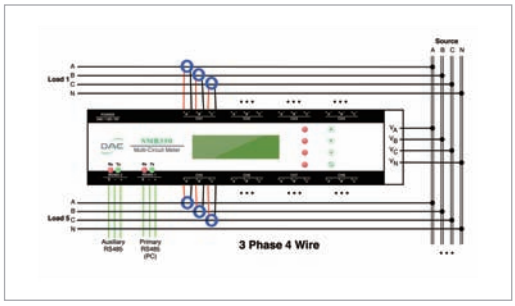
Unit: mm

Order Code	Type	Primary	Order Code	Type	Primary
CT5D3	solid core	5A	CT100S	split core	100A
CT200D3	solid core	200A	CT200S	split core	200A
CT5S	split core	5A			
CT50S	split core	50A			

Wiring Diagram







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