معرفی دستگاه های اندازه گیری و کنترل کیفیت توان AEC

Power Quality Measurment&Control Devices

شرکت اترک انرژی گستر ارس

www.atrakenergy-aras.ir

info@atarkenergy-aras.ir

۰۲۱-۲۲۵۵۹۵۷۱

چرا مانیتورینگ انرژی و کیفیت توان؟

۱ افزایش قیمت انرژی و نیاز به بهینه‌سازی مصرف در صنعت، ساختمان، دیتا سنتر و زیرساخت‌ها

۲ بروز مشکلاتی مثل قطعی، افت ولتاژ، هارمونیک، نامتعادلی که به تجهیزات حساس آسیب می‌زنند

۳ الزام بسیاری از مشتریان (به ویژه کارخانه‌ها) به ثبت و گزارش کیفیت توان بر اساس استانداردهایی مثل EN50160 و IEEE 519

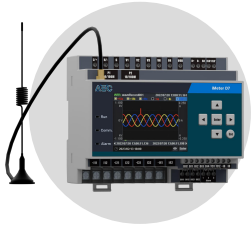
٤ نیاز به اطلاعات دقیق، قابل اعتماد و قابل لاگ‌گیری برای تحلیل، عیب‌یابی و تصمیم‌گیری مدیریتی

در یک جمله:

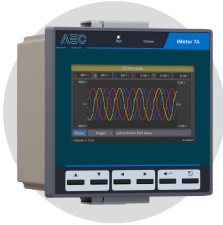
اگر نتوانیم اندازه‌گیری کنیم، نمی‌توانیم مدیریت کنیم.

محصولات AEC

iMeter 5

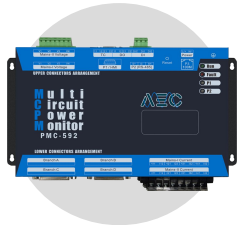


iMeter D7

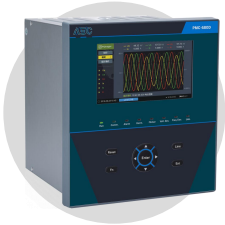


iMeter 7A

iMeter 8



PMC-592



PMC-680D

محصولات

iMeter 5

iMeter D7

iMeter 7A

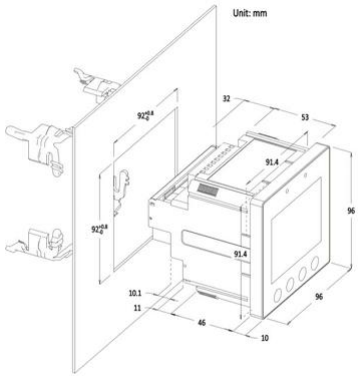
iMeter 8

PMC-592

PMC-680D

iMeter 5

مناسب برای تابلوهای صنعتی، دیتا سنتر و مانیتورینگ کیفیت توان در سطح فیدر / ورودی اصلی.



- **فرم‌فکتور** DIN 96×96 **اشغال فضای کم در درب تابلو**
- **کلاس دقت ۰.۲** S**برای انرژی و توان**
- LCD **رنگی** IPS/TFT **با رزولوشن بالا و دکمه‌های لمسی**
- **اندازه‌گیری کامل: ولتاژ، جریان، توان اکتیو/راکتیو/ظاهری، PF، فرکانس،** THD**و رخدادهای** PQ
- **پروتکل‌ها:** Modbus RTU/TCP**، مناسب یکپارچه‌سازی با** BMS**،** EMS**،** iEMS**و** SCADA

معادلِ دستگاه:

ION 7330

iMeter 5

Technical Specifications

Voltage Inputs (V1, V2, V3, VN)	
Standard (Un)	400VLN/690VLL + 20%
Range	4-800V L-N / 7-1380V L-L
Overload	2xUn continuous, 4xUn for 1s
Burden	< 0.5VA/per phase
PT Ratio	
Primary	1-1,000,000V
Secondary	1-1,500V
Measurement Category	CAT III 600V
Frequency	40Hz-72Hz
Current Inputs (·I11, I12, ·I21, I22, ·I31, I32, ·I41, I42)	
Standard (In)	5A
Optional (In)	1A
Range	0.1% to 200% In
Starting Current	0.1% In
Overload	2xIn continuous, 4xIn for 10s, 20xIn for 1s
Burden	< 0.75VA/per phase @ 5A < 0.5VA/per phase @ 1A
CT Ratio	
Primary	1-30,000A
Secondary	1-50A
I4 Primary	1-30,000A
I4 Secondary	1-50A
SCCP Options	Split-Core Current Probe Input @ max. 500mV
SCCP-50A-500mV	5A/50A (In/Imax), max. 500mV Output
SCCP-200A-200mV	20A/200A (In/Imax), max. 200mV Output
SCCP-500A-500mV	500A Imax, max. 500mV Output
SCCP-5000A-500mV	Selectable 500A/5000A (Imax) Rogowski Coil, max. 500mV Output

Accuracy

Parameters		Accuracy	Resolution
Voltage (U)		±0.1%	0.001V
I1, I2, I3, I4	5A/1A	±0.1%	0.001A
	SCCPA	±0.1% + Error of SCCP	
P, Q, S	5A/1A	±0.2%	0.001k
	SCCPA	±0.5%	
kWh, kVAh	5A/1A	IEC 62053-22 Class 0.2S	0.01kXh
	SCCPA	IEC 62053-21 Class 1	
kvarh	5A/1A	IEC 62053-24 Class 0.5S IEC 62053-23 Class 2	0.01kvarh
	SCCPA	IEC 62053-24 Class 1 IEC 62053-23 Class 2	
PF	5A/1A	±0.2%	0.001
	SCCPA	±0.5%	
Phase Angle		±1°	0.1°
Freq., Freq. Deviation		±0.003 Hz	0.001Hz
Harmonics, Interharmonics		IEC 61000-4-7 Class I	0.01%
U Unbalance		±0.1%	0.01%
I Unbalance		±0.5%	0.01%
Pst, Plt		IEC 61000-4-15 Class F1	0.001

Supply (L/+, N/-)	
rd	95-277VAC/VDC ± 10%, 47-440 Hz
al	20-60VDC
	< 6W
ltage Category	OVC III 300V
Inputs (DIC, DI1, DI2, DI3, DI4)	
rd	Dry contact, 24VDC internally wetted
ng	1000Hz
esis	1ms minimum
Outputs (DO11, DO12, DO21, DO22)	
	Form A Mechanical Relay
g	5A @ 250VAC/30VDC
al Solid State Pulse Outputs (E1+, E1-, E2+, E2-)	
	Form A Solid State Relay
n	Optical
oad Voltage	30VDC
orward Current	100mA
als Max. Torque	
nputs	1.2N·m
& RS-485	0.4N·m
nmental Conditions	
ing Temperature	-25°C to 70°C
e Temperature	-40°C to 85°C
ity	5% to 95% non-condensing
pheric Pressure	60 kPa to 106 kPa
on Degree	2
nical Characteristics	
Cutout	92x92 mm
mensions	96x96x85 mm
ng	54

iMeter 5

Technical Specifications

Voltage Inputs (V1, V2, V3, VN)	
Standard (Un)	400VLN/690VLL + 20%
Range	4-800V L-N / 7-1380V L-L
Overload	2xUn continuous, 4xUn for 1s
Burden	< 0.5VA/per phase
PT Ratio	
Primary	1-1,000,000V
Secondary	1-1,500V
Measurement Category	CAT III 600V
Frequency	40Hz-72Hz
Current Inputs (·I11, I12, ·I21, I22, ·I31, I32, ·I41, I42)	
Standard (In)	5A
Optional (In)	1A
Range	0.1% to 200% In
Starting Current	0.1% In
Overload	2xIn continuous, 4xIn for 10s, 20xIn for 1s
Burden	< 0.75VA/per phase @ 5A < 0.5VA/per phase @ 1A
CT Ratio	
Primary	1-30,000A
Secondary	1-50A
I4 Primary	1-30,000A
I4 Secondary	1-50A
SCCP Options	Split-Core Current Probe Input @ max. 500mV
SCCP-50A-500mV	5A/50A (In/Imax), max. 500mV Output
SCCP-200A-200mV	20A/200A (In/Imax), max. 200mV Output
SCCP-500A-500mV	500A Imax, max. 500mV Output
SCCP-5000A-500mV	Selectable 500A/5000A (Imax) Rogowski Coil, max. 500mV Output

Power Supply (L/+, N/-)	
Standard	95-277VAC/VDC ± 10%, 47-440 Hz
Optional	20-60VDC
Burden	< 6W
Overvoltage Category	OVC III 300V
Digital Inputs (DIC, DI1, DI2, DI3, DI4)	
Standard	Dry contact, 24VDC internally wetted
Sampling	1000Hz
Hysteresis	1ms minimum
Digital Outputs (DO11, DO12, DO21, DO22)	
Type	Form A Mechanical Relay
Loading	5A @ 250VAC/30VDC
Optional Solid State Pulse Outputs (E1+, E1-, E2+, E2-)	
Type	Form A Solid State Relay
Isolation	Optical
Max. Load Voltage	30VDC
Max. Forward Current	100mA
Terminals Max. Torque	
U & I Inputs	1.2N·m
DI, DO & RS-485	0.4N·m
Environmental Conditions	
Operating Temperature	-25°C to 70°C
Storage Temperature	-40°C to 85°C
Humidity	5% to 95% non-condensing
Atmospheric Pressure	60 kPa to 106 kPa
Pollution Degree	2
Mechanical Characteristics	
Panel Cutout	92x92 mm
Unit Dimensions	96x96x85 mm
IP Rating	54

eters		Accuracy	Resolution
(U)		±0.1%	0.001V
3, I4	5A/1A	±0.1%	0.001A
	SCCPA	±0.1% + Error of SCCP	
	5A/1A	±0.2%	0.001k
	SCCPA	±0.5%	
VAh	5A/1A	IEC 62053-22 Class 0.2S	0.01kXh
	SCCPA	IEC 62053-21 Class 1	
	5A/1A	IEC 62053-24 Class 0.5S IEC 62053-23 Class 2	0.01kvarh
	SCCPA	IEC 62053-24 Class 1 IEC 62053-23 Class 2	
	5A/1A	±0.2%	0.001
	SCCPA	±0.5%	
Angle		±1°	0.1°
Freq. on		±0.003 Hz	0.001Hz
nics, rmonics		IEC 61000-4-7 Class I	0.01%
alance		±0.1%	0.01%
lance		±0.5%	0.01%
		IEC 61000-4-15 Class F1	0.001

iMeter 5

Accuracy

Parameters	Accuracy		Resolution
Voltage (U)	±0.1%		0.001V
I1, I2, I3, I4	5A/1A	±0.1%	0.001A
	SCCPA	±0.1% + Error of SCCP	
P, Q, S	5A/1A	±0.2%	0.001k
	SCCPA	±0.5%	
kWh, kVAh	5A/1A	IEC 62053-22 Class 0.2S	0.01kXh
	SCCPA	IEC 62053-21 Class 1	
kvarh	5A/1A	IEC 62053-24 Class 0.5S IEC 62053-23 Class 2	0.01kvarh
	SCCPA	IEC 62053-24 Class 1 IEC 62053-23 Class 2	
PF	5A/1A	±0.2%	0.001
	SCCPA	±0.5%	
Phase Angle	±1°		0.1°
Freq., Freq. Deviation	±0.003 Hz		0.001Hz
Harmonics, Interharmonics	IEC 61000-4-7 Class I		0.01%
U Unbalance	±0.1%		0.01%
I Unbalance	±0.5%		0.01%
Pst, Plt	IEC 61000-4-15 Class F1		0.001

Technical Specifications

Voltage Inputs (V1, V2, V3, VN)	
Standard (Un)	400VLN/690VLL + 20%
Range	4-800V L-N / 7-1380V L-L
Overload	2xUn continuous, 4xUn for 1s
Burden	< 0.5VA/per phase
PT Ratio	
Primary	1-1,000,000V
Secondary	1-1,500V
Measurement Category	CAT III 600V
Frequency	40Hz-72Hz
Current Inputs (·I11, I12, ·I21, I22, ·I31, I32, ·I41, I42)	
Standard (In)	5A
Optional (In)	1A
Range	0.1% to 200% In
Starting Current	0.1% In
Overload	2xIn continuous, 4xIn for 10s, 20xIn for 1s
Burden	< 0.75VA/per phase @ 5A < 0.5VA/per phase @ 1A
CT Ratio	
Primary	1-30,000A
Secondary	1-50A
I4 Primary	1-30,000A
I4 Secondary	1-50A
SCCP Options	Split-Core Current Probe Input @ max. 500mV
SCCP-50A-500mV	5A/50A (In/Imax), max. 500mV Output
SCCP-200A-200mV	20A/200A (In/Imax), max. 200mV Output
SCCP-500A-500mV	500A Imax, max. 500mV Output
SCCP-5000A-500mV	Selectable 500A/5000A (Imax) Rogowski Coil, max. 500mV Output

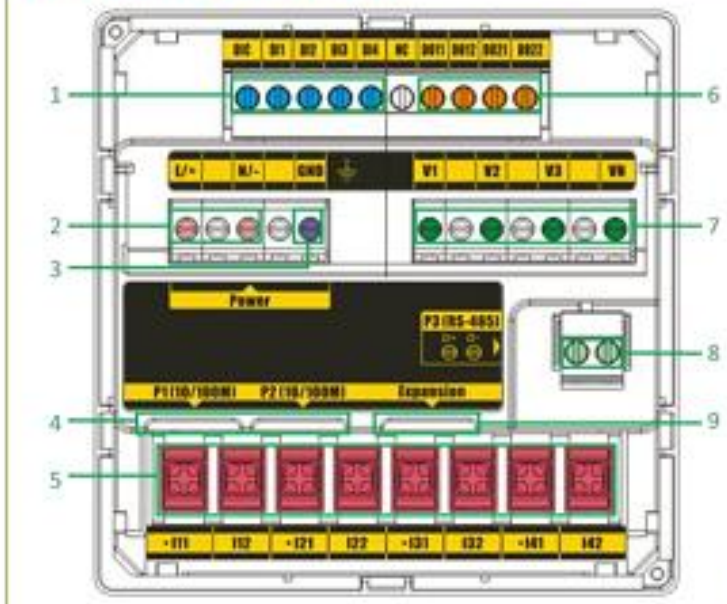
Power Supply (L/+, N/-)	
Standard	95-277VAC/VDC ± 10%, 47-440 Hz
Optional	20-60VDC
Burden	< 6W
Overvoltage Category	OVC III 300V
Digital Inputs (DIC, DI1, DI2, DI3, DI4)	
Standard	Dry contact, 24VDC internally wetted
Sampling	1000Hz
Hysteresis	1ms minimum
Digital Outputs (DO11, DO12, DO21, DO22)	
Type	Form A Mechanical Relay
Loading	5A @ 250VAC/30VDC
Optional Solid State Pulse Outputs (E1+, E1-, E2+, E2-)	
Type	Form A Solid State Relay
Isolation	Optical
Max. Load Voltage	30VDC
Max. Forward Current	100mA
Terminals Max. Torque	
U & I Inputs	1.2N·m
DI, DO & RS-485	0.4N·m
Environmental Conditions	
Operating Temperature	-25°C to 70°C
Storage Temperature	-40°C to 85°C
Humidity	5% to 95% non-condensing
Atmospheric Pressure	60 kPa to 106 kPa
Pollution Degree	2
Mechanical Characteristics	
Panel Cutout	92x92 mm
Unit Dimensions	96x96x85 mm
IP Rating	54

iMeter 5

Accuracy

Parameters		Accuracy
Voltage (U)		±0.1%
I1, I2, I3, I4	5A/1A	±0.1%
	SCCPA	±0.1% + Error of SCCP
P, Q, S	5A/1A	±0.2%
	SCCPA	±0.5%
kWh, kVAh	5A/1A	IEC 62053-22 Class 0.2S
	SCCPA	IEC 62053-21 Class 1
kvarh	5A/1A	IEC 62053-24 Class 0.5S IEC 62053-23 Class 2
	SCCPA	IEC 62053-24 Class 1 IEC 62053-23 Class 2
PF	5A/1A	±0.2%
	SCCPA	±0.5%
Phase Angle		±1°
Freq., Freq. Deviation		±0.003 Hz
Harmonics, Interharmonics		IEC 61000-4-7 Class I
U Unbalance		±0.1%
I Unbalance		±0.5%
Pst, Plt		IEC 61000-4-15 Class F1

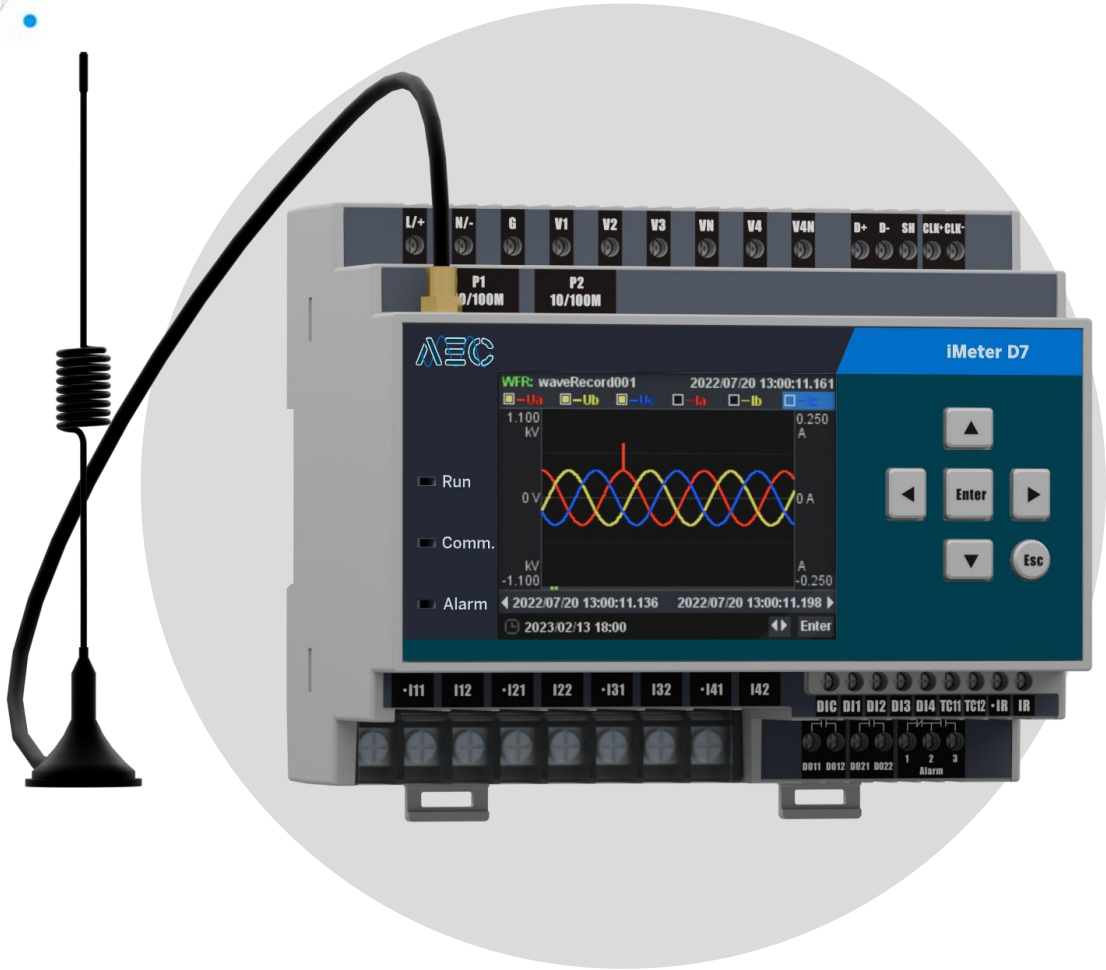
Terminal Diagram



1	4xDigital Input	6	2xDigital Output
2	Power Supply	7	Voltage Inputs
3	Ground Terminal	8	RS-485 Port
4	10Base-T/100Base-TX Ethernet Port	9	Expansion Port (Reserved)
5	Current Inputs		

cifications

(1, V2, V3, VN)	
	400VLN/690VLL + 20%
	4-800V L-N / 7-1380V L-L
	2xUn continuous, 4xUn for 1s
	< 0.5VA/per phase
	1-1,000,000V
	1-1,500V
tegory	CAT III 600V
	40Hz-72Hz
I11, I12, ·I21, I22, ·I31, I32, ·I41, I42)	
	5A
	1A
	0.1% to 200% In
	0.1% In
	2xIn continuous, 4xIn for 10s, 20xIn for 1s
	< 0.75VA/per phase @ 5A
	< 0.5VA/per phase @ 1A
	1-30,000A
	1-50A
	1-30,000A
	1-50A
	Split-Core Current Probe Input @ max. 500mV
V	5A/50A (In/Imax), max. 500mV Output
mV	20A/200A (In/Imax), max. 200mV Output
mV	500A Imax, max. 500mV Output
0mV	Selectable 500A/5000A (Imax) Rogowski Coil, max. 500mV Output



iMeter 5

iMeter D7

iMeter 7A

iMeter 8

PMC-592

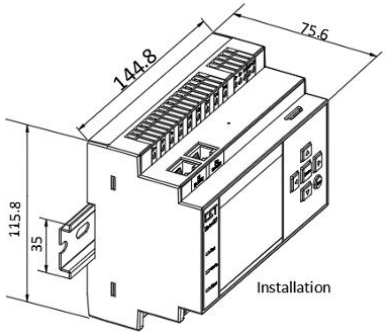
PMC-680D

محصولات

www.atrakenergy-aras.ir

iMeter D7

برای تابلوهای فشرده، رک‌ها و جاهایی که نمی‌خواهیم روی درب تابلو سوراخ‌کاری پنلی انجام دهیم.



- نصب روی ریل DIN 35mm، ابعاد حدود ۱۴۵×۱۲۴×۷۷ میلی‌متر
- نمایشگر رنگی IPS در خود دستگاه (با وجود DIN-Rail بودن، همچنان قابل مشاهده است)
- کلاس ۰.۲ و IEC 61000-4-30 Class A، EN50160، IEEE 519
- پشتیبانی از: IEC61850, Ethernet، RS-485، Modbus، IEC61850 و در برخی نسخه‌ها MQTT / 4G

معادلِ دستگاه:

ION 7400

iMeter D7

Technical Specifications

Voltage Inputs (V1, V2, V3, VN, V4, V4N)	
Standard (Un)	400VLN/690VLL+ 20%
Range	5V to 2Un for 400VLN nominal
Overload	2xUn continuous, 4xUn for 1s
Burden	< 0.5VA/per phase
PT Ratio	
Primary	1-1,000,000V
Secondary	1-1,500V
V4 Primary	1-1,000,000V
V4 Secondary	1-1,500V
Measurement Category	CAT III 600V
Frequency	40Hz-60Hz @ 50Hz, 48Hz-72Hz @ 60Hz
Current Inputs (·I11, I12, ·I21, I22, ·I31, I32, ·I41, I42)	
Standard (In)	5A (1A Optional)
Range	1% to 400% In
Starting Current	0.1% In
Overload	4xIn continuous, 10xIn for 1s
Burden	< 0.5VA/per phase @ 5A < 0.1VA/per phase @ 1A
CT Ratio	
Primary	1-30,000A
Secondary	1-50A
I4 Primary	1-30,000A
I4 Secondary	1-50A
SCCP Options	Split-Core Current Probe Input @ max. 500mV
SCCP-50A-500mV	5A/50A (In/Imax), max. 500mV Output
SCCP-200A-200mV	20A/200A (In/Imax), max. 200mV Output
SCCP-500A-500mV	500A Imax, max. 500mV Output
SCCP-5000A-500mV	Selectable 500A/5000A (Imax) Rogowski Coil, max. 500mV Output
SCCT Options	PMC-SCCT-100A-40mA-16-A, Ø=16mm, Class 0.5 PMC-SCCT-200A-40mA-24-A, Ø=24mm, Class 0.5 PMC-SCCT-400A-40mA-35-A, Ø=35mm, Class 0.5 PMC-SCCT-800A-40mA-A, 80x50mm, Class 0.5 PMC-SCCT-1600A-40mA-A, 130x55mm, Class 0.5
SCCTA Option	PMC-SCCT-5A-2mA-16-A, Ø=16mm, Class 1

Accuracy

Parameters	Accuracy		Resolution
Voltage (U)	±0.1%		0.001V
I1, I2, I3, I4	5A/1A	±0.1%	0.001A
	SCCT/SCCTA	±0.1%+Error of SCCT	
	SCCPA	±0.1%+Error of SCCP	
P, Q, S	5A/1A	±0.2%	0.001W/ var/VA
	SCCT/SCCTA	±0.5%	
	SCCPA	±0.5%	
kWh, kVAh	5A/1A	IEC 62053-22 Class 0.2S	0.1kXh
	SCCT/SCCTA	IEC 62053-21 Class 1	
	SCCPA	IEC 62053-22 Class 0.5S	
kvarh	5A/1A	IEC 62053-24 Class 0.5S IEC 62053-23 Class 2	0.1kvarh
	SCCT/SCCTA	IEC 62053-24 Class 1 IEC 62053-23 Class 2	
	SCCPA	IEC 62053-24 Class 1 IEC 62053-23 Class 2	
PF	5A/1A	±0.2%	0.001
	SCCT/SCCTA	±0.5%	
	SCCPA	±0.5%	
Fundamental Phase Angle	5A/1A	±0.2°	0.1°
	SCCT/SCCTA	±0.2°+Phase Error of SCCT	
	SCCPA	±0.2°+ Phase Error of SCCP	
Harmonics Phase Angle	5A/1A	±5°	0.1°
	SCCT/SCCTA	±5°+Phase Error of SCCT	
	SCCPA	±5°+ Phase Error of SCCP	
Freq., Freq. Dev.	±0.003Hz		0.001Hz
Harmonics/ Interharmonics	IEC 61000-4-7 Class I		0.01%
U Deviation	±0.1%		0.01%
U Unbalance	±0.1%		0.01%
I Unbalance	±0.5%		0.01%
Pst, Plt	IEC 61000-4-15 Class F1		0.001

Power Supply (L+, N-)	
Standard	95-250VAC/VDC ± 10%, 47-440 Hz
Optional	20-60VDC
Burden	< 7VA / 10W @ 250VAC or 60VDC
Digital Inputs (DIC, DI1, DI2, DI3, DI4)	
Standard	Dry contact, 24VDC internally wetted
Sampling	1000Hz
Hysteresis	1ms minimum
Form A Relay Outputs (DO11, DO12, DO21, DO22)	
Type	Form A Mechanical Relay
Loading	5A @ 250VAC or 30VDC
Form C Relay Outputs (Alarm 1, 2, 3)	
Type	Form C Mechanical Relay
Loading	8A @ 250VAC or 24VDC
Optional Pulse Outputs (E1+, E1-, E2+, E2-, E3+, E3-)	
Type	Form A Solid State Relay
Isolation	Optical
Max. Load Voltage	30VDC
Max. Forward Current	100mA
Optional Analog Input (AI1+, AI1-, AI2+, AI2-)	
Type	0-20 / 4-20 mA DC
Overload	24 mA maximum
Optional Residual Current Input (·IR, IR)	
In	0.5mA
Range	2-200%In
Optional RTD Temperature Inputs (TC11, TC12)	
RTD Type	2-Wire PT100 (sensor not included)
Range	-40°C to +200°C
Accuracy	±1°C
Clock Input (CLK+, CLK-)	
Type	GPS, IRIG-B
Accuracy	1ms
Terminals Max. Torque	
Current Inputs	1.0 N·m
Power Supply, Voltage Inputs, DI, DO, AI, IR, TC, CLK & RS-485	0.44 N·m

iMeter D7

Accuracy

Parameters	Accuracy		Resolution
Voltage (U)	±0.1%		0.001V
I1, I2, I3, I4	5A/1A	±0.1%	0.001A
	SCCT/SCCTA	±0.1%+Error of SCCT	
	SCCPA	±0.1%+Error of SCCP	
P, Q, S	5A/1A	±0.2%	0.001W/ var/VA
	SCCT/SCCTA	±0.5%	
	SCCPA	±0.5%	
kWh, kVAh	5A/1A	IEC 62053-22 Class 0.2S	0.1kXh
	SCCT/SCCTA	IEC 62053-21 Class 1	
	SCCPA	IEC 62053-22 Class 0.5S	
kvarh	5A/1A	IEC 62053-24 Class 0.5S IEC 62053-23 Class 2	0.1kvarh
	SCCT/SCCTA	IEC 62053-24 Class 1 IEC 62053-23 Class 2	
	SCCPA	IEC 62053-24 Class 1 IEC 62053-23 Class 2	
PF	5A/1A	±0.2%	0.001
	SCCT/SCCTA	±0.5%	
	SCCPA	±0.5%	
Fundamental Phase Angle	5A/1A	±0.2°	0.1°
	SCCT/SCCTA	±0.2°+Phase Error of SCCT	
	SCCPA	±0.2°+ Phase Error of SCCP	
Harmonics Phase Angle	5A/1A	±5°	0.1°
	SCCT/SCCTA	±5°+Phase Error of SCCT	
	SCCPA	±5°+ Phase Error of SCCP	
Freq., Freq. Dev.	±0.003Hz		0.001Hz
Harmonics/ Interharmonics	IEC 61000-4-7 Class I		0.01%
U Deviation	±0.1%		0.01%
U Unbalance	±0.1%		0.01%
I Unbalance	±0.5%		0.01%
Pst, Plt	IEC 61000-4-15 Class F1		0.001

Power Supply (L+, N-)	
Standard	95-250VAC/VDC ± 10%, 47-440 Hz
Optional	20-60VDC
Burden	< 7VA / 10W @ 250VAC or 60VDC
Digital Inputs (DIC, DI1, DI2, DI3, DI4)	
Standard	Dry contact, 24VDC internally wetted
Sampling	1000Hz
Hysteresis	1ms minimum
Form A Relay Outputs (DO11, DO12, DO21, DO22)	
Type	Form A Mechanical Relay
Loading	5A @ 250VAC or 30VDC
Form C Relay Outputs (Alarm 1, 2, 3)	
Type	Form C Mechanical Relay
Loading	8A @ 250VAC or 24VDC
Optional Pulse Outputs (E1+, E1-, E2+, E2-, E3+, E3-)	
Type	Form A Solid State Relay
Isolation	Optical
Max. Load Voltage	30VDC
Max. Forward Current	100mA
Optional Analog Input (AI1+, AI1-, AI2+, AI2-)	
Type	0-20 / 4-20 mA DC
Overload	24 mA maximum
Optional Residual Current Input (·IR, IR)	
In	0.5mA
Range	2-200%In
Optional RTD Temperature Inputs (TC11, TC12)	
RTD Type	2-Wire PT100 (sensor not included)
Range	-40°C to +200°C
Accuracy	±1°C
Clock Input (CLK+, CLK-)	
Type	GPS, IRIG-B
Accuracy	1ms
Terminals Max. Torque	
Current Inputs	1.0 N·m
Power Supply, Voltage Inputs, DI, DO, AI, IR, TC, CLK & RS-485	0.44 N·m

Technical Specifications

Voltage Inputs (V1, V2, V3, VN, V4, V4N)	
Standard (Un)	400VLN/690VLL+ 20%
Range	5V to 2Un for 400VLN nominal
Overload	2xUn continuous, 4xUn for 1s
Burden	< 0.5VA/per phase
PT Ratio	
Primary	1-1,000,000V
Secondary	1-1,500V
V4 Primary	1-1,000,000V
V4 Secondary	1-1,500V
Measurement Category	CAT III 600V
Frequency	40Hz-60Hz @ 50Hz, 48Hz-72Hz @ 60Hz
Current Inputs (·I11, I12, ·I21, I22, ·I31, I32, ·I41, I42)	
Standard (In)	5A (1A Optional)
Range	1% to 400% In
Starting Current	0.1% In
Overload	4xIn continuous, 10xIn for 1s
Burden	< 0.5VA/per phase @ 5A < 0.1VA/per phase @ 1A
CT Ratio	
Primary	1-30,000A
Secondary	1-50A
I4 Primary	1-30,000A
I4 Secondary	1-50A
SCCP Options	Split-Core Current Probe Input @ max. 500mV
SCCP-50A-500mV	5A/50A (In/Imax), max. 500mV Output
SCCP-200A-200mV	20A/200A (In/Imax), max. 200mV Output
SCCP-500A-500mV	500A Imax, max. 500mV Output
SCCP-5000A-500mV	Selectable 500A/5000A (Imax) Rogowski Coil, max. 500mV Output
SCCT Options	PMC-SCCT-100A-40mA-16-A, Ø=16mm, Class 0.5 PMC-SCCT-200A-40mA-24-A, Ø=24mm, Class 0.5 PMC-SCCT-400A-40mA-35-A, Ø=35mm, Class 0.5 PMC-SCCT-800A-40mA-A, 80x50mm, Class 0.5 PMC-SCCT-1600A-40mA-A, 130x55mm, Class 0.5
SCCTA Option	PMC-SCCT-5A-2mA-16-A, Ø=16mm, Class 1

iMeter D7

Technical Specifications

Voltage Inputs (V1, V2, V3, VN, V4, V4N)	
Standard (Un)	400VLN/690VLL+ 20%
Range	5V to 2Un for 400VLN nominal
Overload	2xUn continuous, 4xUn for 1s
Burden	< 0.5VA/per phase
PT Ratio	
Primary	1-1,000,000V
Secondary	1-1,500V
V4 Primary	1-1,000,000V
V4 Secondary	1-1,500V
Measurement Category	CAT III 600V
Frequency	40Hz-60Hz @ 50Hz, 48Hz-72Hz @ 60Hz
Current Inputs (·I11, I12, ·I21, I22, ·I31, I32, ·I41, I42)	
Standard (In)	5A (1A Optional)
Range	1% to 400% In
Starting Current	0.1% In
Overload	4xIn continuous, 10xIn for 1s
Burden	< 0.5VA/per phase @ 5A < 0.1VA/per phase @ 1A
CT Ratio	
Primary	1-30,000A
Secondary	1-50A
I4 Primary	1-30,000A
I4 Secondary	1-50A
SCCP Options	Split-Core Current Probe Input @ max. 500mV
SCCP-50A-500mV	5A/50A (In/Imax), max. 500mV Output
SCCP-200A-200mV	20A/200A (In/Imax), max. 200mV Output
SCCP-500A-500mV	500A Imax, max. 500mV Output
SCCP-5000A-500mV	Selectable 500A/5000A (Imax) Rogowski Coil, max. 500mV Output
SCCT Options	PMC-SCCT-100A-40mA-16-A, Ø=16mm, Class 0.5 PMC-SCCT-200A-40mA-24-A, Ø=24mm, Class 0.5 PMC-SCCT-400A-40mA-35-A, Ø=35mm, Class 0.5 PMC-SCCT-800A-40mA-A, 80x50mm, Class 0.5 PMC-SCCT-1600A-40mA-A, 130x55mm, Class 0.5
SCCTA Option	PMC-SCCT-5A-2mA-16-A, Ø=16mm, Class 1

Accuracy

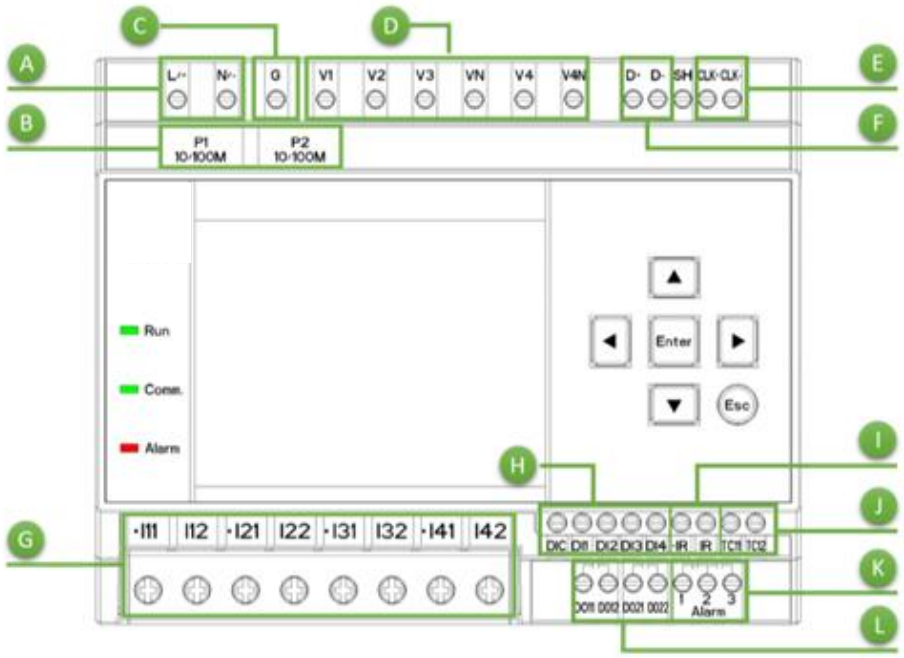
Parameters	Accuracy		Resolution
Voltage (U)	±0.1%		0.001V
I1, I2, I3, I4	5A/1A	±0.1%	0.001A
	SCCT/SCCTA	±0.1%+Error of SCCT	
	SCCPA	±0.1%+Error of SCCP	
P, Q, S	5A/1A	±0.2%	0.001W/ var/VA
	SCCT/SCCTA	±0.5%	
	SCCPA	±0.5%	
kWh, kVAh	5A/1A	IEC 62053-22 Class 0.2S	0.1kXh
	SCCT/SCCTA	IEC 62053-21 Class 1	
	SCCPA	IEC 62053-22 Class 0.5S	
kvarh	5A/1A	IEC 62053-24 Class 0.5S IEC 62053-23 Class 2	0.1kvarh
	SCCT/SCCTA	IEC 62053-24 Class 1 IEC 62053-23 Class 2	
	SCCPA	IEC 62053-24 Class 1 IEC 62053-23 Class 2	
PF	5A/1A	±0.2%	0.001
	SCCT/SCCTA	±0.5%	
	SCCPA	±0.5%	
Fundamental Phase Angle	5A/1A	±0.2°	0.1°
	SCCT/SCCTA	±0.2°+Phase Error of SCCT	
	SCCPA	±0.2°+ Phase Error of SCCP	
Harmonics Phase Angle	5A/1A	±5°	0.1°
	SCCT/SCCTA	±5°+Phase Error of SCCT	
	SCCPA	±5°+ Phase Error of SCCP	
Freq., Freq. Dev.	±0.003Hz		0.001Hz
Harmonics/ Interharmonics	IEC 61000-4-7 Class I		0.01%
U Deviation	±0.1%		0.01%
U Unbalance	±0.1%		0.01%
I Unbalance	±0.5%		0.01%
Pst, Plt	IEC 61000-4-15 Class F1		0.001

Power Supply (L+, N-)	
Standard	95-250VAC/VDC ± 10%, 47-440 Hz
Optional	20-60VDC
Burden	< 7VA / 10W @ 250VAC or 60VDC
Digital Inputs (DIC, DI1, DI2, DI3, DI4)	
Standard	Dry contact, 24VDC internally wetted
Sampling	1000Hz
Hysteresis	1ms minimum
Form A Relay Outputs (DO11, DO12, DO21, DO22)	
Type	Form A Mechanical Relay
Loading	5A @ 250VAC or 30VDC
Form C Relay Outputs (Alarm 1, 2, 3)	
Type	Form C Mechanical Relay
Loading	8A @ 250VAC or 24VDC
Optional Pulse Outputs (E1+, E1-, E2+, E2-, E3+, E3-)	
Type	Form A Solid State Relay
Isolation	Optical
Max. Load Voltage	30VDC
Max. Forward Current	100mA
Optional Analog Input (AI1+, AI1-, AI2+, AI2-)	
Type	0-20 / 4-20 mA DC
Overload	24 mA maximum
Optional Residual Current Input (·IR, IR)	
In	0.5mA
Range	2-200%In
Optional RTD Temperature Inputs (TC11, TC12)	
RTD Type	2-Wire PT100 (sensor not included)
Range	-40°C to +200°C
Accuracy	±1°C
Clock Input (CLK+, CLK-)	
Type	GPS, IRIG-B
Accuracy	1ms
Terminals Max. Torque	
Current Inputs	1.0 N·m
Power Supply, Voltage Inputs, DI, DO, AI, IR, TC, CLK & RS-485	0.44 N·m

iMeter D7

Power Supply (L+, N-)	
Standard	95-250VAC/VDC ± 10%, 47-440 Hz
Optional	20-60VDC
Burden	< 7VA / 10W @ 250VAC or 60VDC
Digital Inputs (DIC, DI1, DI2, DI3, DI4)	
Standard	Dry contact, 24VDC internally wetted
Sampling	1000Hz
Hysteresis	1ms minimum
Form A Relay Outputs (DO11, DO12, DO21, DO22)	
Type	Form A Mechanical Relay
Loading	5A @ 250VAC or 30VDC
Form C Relay Outputs (Alarm 1, 2, 3)	
Type	Form C Mechanical Relay
Loading	8A @ 250VAC or 24VDC
Optional Pulse Outputs (E1+, E1-, E2+, E2-, E3+, E3-)	
Type	Form A Solid State Relay
Isolation	Optical
Max. Load Voltage	30VDC
Max. Forward Current	100mA
Optional Analog Input (AI1+, AI1-, AI2+, AI2-)	
Type	0-20 / 4-20 mA DC
Overload	24 mA maximum
Optional Residual Current Input (·IR, IR)	
In	0.5mA
Range	2-200%In
Optional RTD Temperature Inputs (TC11, TC12)	
RTD Type	2-Wire PT100 (sensor not included)
Range	-40°C to +200°C
Accuracy	±1°C
Clock Input (CLK+, CLK-)	
Type	GPS, IRIG-B
Accuracy	1ms
Terminals Max. Torque	
Current Inputs	1.0 N·m
Power Supply, Voltage Inputs, DI, DO, AI, IR, TC, CLK & RS-485	0.44 N·m

Terminals Diagram



- A Power Supply
- B 2x Ethernet Port
- C Chassis Ground
- D 4x Voltage Input
- E 1x GPS Time Sync.
- F RS-485 Port
- G 4x Current Input
- H 4x Digital Input
- I 1x Residual Current Input
- J 1x Temperature Input
- K 1x Alarm Output
- L 2x Digital Output

Accuracy

Parameters	Accuracy		Resolution
Voltage (U)	±0.1%		0.001V
I1, I2, I3, I4	5A/1A	±0.1%	0.001A
	SCCT/SCCTA	±0.1%+Error of SCCT	
	SCCPA	±0.1%+Error of SCCP	
P, Q, S	5A/1A	±0.2%	0.001W/ var/VA
	SCCT/SCCTA	±0.5%	
	SCCPA	±0.5%	
kWh, kVAh	5A/1A	IEC 62053-22 Class 0.2S	0.1kXh
	SCCT/SCCTA	IEC 62053-21 Class 1	
	SCCPA	IEC 62053-22 Class 0.5S	
kvarh	5A/1A	IEC 62053-24 Class 0.5S IEC 62053-23 Class 2	0.1kvarh
	SCCT/SCCTA	IEC 62053-24 Class 1 IEC 62053-23 Class 2	
	SCCPA	IEC 62053-24 Class 1 IEC 62053-23 Class 2	
PF	5A/1A	±0.2%	0.001
	SCCT/SCCTA	±0.5%	
	SCCPA	±0.5%	
Fundamental Phase Angle	5A/1A	±0.2°	0.1°
	SCCT/SCCTA	±0.2°+Phase Error of SCCT	
	SCCPA	±0.2°+ Phase Error of SCCP	
Harmonics Phase Angle	5A/1A	±5°	0.1°
	SCCT/SCCTA	±5°+Phase Error of SCCT	
	SCCPA	±5°+ Phase Error of SCCP	
Freq., Freq. Dev.	±0.003Hz		0.001Hz
Harmonics/ Interharmonics	IEC 61000-4-7 Class I		0.01%
U Deviation	±0.1%		0.01%
U Unbalance	±0.1%		0.01%
I Unbalance	±0.5%		0.01%
Pst, Plt	IEC 61000-4-15 Class F1		0.001

محصولات AEC

- iMeter 5
- iMeter D7
- **iMeter 7A**
- iMeter 8
- PMC-592
- PMC-680D

iMeter 7A

برای تابلوهای اصلی و پست‌ها.

- فرم‌فکتور DIN 144×144
- کلاس ۰.۲ S و IEC 61000-4-30 Ed.3.1 Class A
- استانداردهای EN50160، IEEE 519، IEC 61000-4-7،IEC61850 برای اتوماسیون پست
- نمایشگر رنگی TFTبا رزولوشن بالا
- لاگ‌گیری گسترده‌ی انرژی، وقایع PQ، هارمونیک‌ها، رویدادها و پروفایل بار

معادلِ دستگاه:

ION 7650

iMeter 7A

Accuracy

Parameters	Accuracy		Resolution
Voltage (U)	±0.1%		0.001V
I1, I2, I3, I4	5A/1A	±0.1%	0.001A
	SCCT/SCCTA	±0.1% + Error of SCCT	
	SCCPA	±0.1% + Error of SCCP	
P, Q, S	5A/1A	±0.2%	0.001W/ var/VA
	SCCT/SCCTA	±0.5%	
	SCCPA	±0.5%	
kWh, kVAh	5A/1A	IEC 62053-22 Class 0.2S	0.1kXh
	SCCT/SCCTA	IEC 62053-21 Class 1	
	SCCPA	IEC 62053-22 Class 0.5S	
kvarh	5A/1A	IEC 62053-24 Class 0.5S IEC 62053-23 Class 2	0.1kvarh
	SCCT/SCCTA	IEC 62053-24 Class 1 IEC 62053-23 Class 2	
	SCCPA	IEC 62053-24 Class 1 IEC 62053-23 Class 2	
PF	5A/1A	±0.2%	0.001
	SCCT/SCCTA	±0.5%	
	SCCPA	±0.5%	
Fundamental Phase Angle	5A/1A	±0.2°	0.1°
	SCCT/SCCTA	±0.2° + Phase Error of SCCT	
	SCCPA	±0.2° + Phase Error of SCCP	
Harmonics Phase Angle	5A/1A	±5°	0.1°
	SCCT/SCCTA	±5° + Phase Error of SCCT	
	SCCPA	±5° + Phase Error of SCCP	
Freq., Freq. Deviation	±0.003 Hz		0.001Hz
Harmonics, Interharmonics	IEC 61000-4-7 Class I		0.01%
U Unbalance	±0.1%		0.01%
I Unbalance	±0.5%		0.01%
Pst, Plt	IEC 61000-4-15 Class F1		0.001

Technical Specifications

Voltage Inputs (V1, V2, V3, VN, V4, V4N)	
Standard (Un)	400VLN/690VLL + 20%
Range	5V to 2Un for 400VLN nominal
Overload	2xUn continuous, 4xUn for 1s
Burden	< 0.5VA/per phase
PT Ratio	
Primary	1-1,000,000V
Secondary	1-1,500V
V4 Primary	1-1,000,000V
V4 Secondary	1-1,500V
Measurement Category	CAT III 1000V
Frequency	40Hz-60Hz @ 50Hz, 48Hz-72Hz @ 60Hz
Current Inputs (·I11, I12, ·I21, I22, ·I31, I32, ·I41, I42)	
Standard (In)	5A (Standard), 1A (Optional)
Range	1% to 400% In
Starting Current	0.1% In
Overload	4xIn continuous, 10xIn for 1s
Burden	< 0.5VA/per phase @ 5A < 0.1VA/per phase @ 1A
CT Ratio	
Primary	1-30,000A
Secondary	1-50A
I4 Primary	1-30,000A
I4 Secondary	1-50A
SCCP Options	Split-Core Current Probe Input @ max. 500mV
SCCP-50A-500mV	5A/50A (In/Imax), max. 500mV Output
SCCP-200A-200mV	20A/200A (In/Imax), max. 200mV Output
SCCP-500A-500mV	500A Imax, max. 500mV Output
SCCP-5000-500mV	Selectable 500A/5000A (Imax) Rogowski Coil, max. 500mV Output
SCCT Options	PMC-SCCT-100A-40mA-16-A, Ø=16mm, Class 0.5 PMC-SCCT-200A-40mA-24-A, Ø=24mm, Class 0.5 PMC-SCCT-400A-40mA-35-A, Ø=35mm, Class 0.5 PMC-SCCT-800A-40mA-A, 80x50mm, Class 0.5 PMC-SCCT-1600A-40mA-A, 130x55mm, Class 0.5
SCCTA Option	PMC-SCCT-5A-2mA-16-A, Ø=16mm, Class 1

Power Supply (L+, N-)	
Standard	95-250VAC/VDC ± 10%, 47-440 Hz
Optional	20-60VDC
Burden	< 14VA/10W @ 250VAC/DC, < 6W @ 24VDC
Overvoltage Category	OVC III 300V
Digital Inputs (DIC, DI1, DI2, DI3, DI4, DIC2, DI5, DI6, DI7, DI8)	
Standard	Dry contact, 24VDC internally wetted
Sampling	1000Hz
Hysteresis	1ms minimum
Digital Outputs (DO11, DO12, DO21, DO22, DO31, DO32, DO41, DO42)	
Type	Form A Mechanical Relay
Loading	5A @ 250VAC/30VDC
Alarm Output (Alarm)	
Loading	5A @ 250VAC or 30VDC
Optional Solid State Pulse Outputs (E1+, E1-, E2+, E2-)	
Type	Form A Solid State Relay
Isolation	Optical
Max. Load Voltage	30VDC
Max. Forward Current	100mA
Optional Analog Inputs (AI1+, AI1-, AI2+, AI2-, SH)	
Type	0-20 / 4-20 mA DC
Overload	24 mA maximum
Optional Temperature Inputs (TC11, TC12, TC21, TC22, SH)	
RTD Type	2-Wire PT100 (sensor not included)
Measurement Range	-40°C to +200°C
GPS Input (CLK+, CLK-, SH)	
Type	GPS, IRIG-B
Accuracy	1ms
Terminals Max. Torque	
U & I Inputs	1.2N·m
DI, DO, AI, TC, GPS & RS-485	0.4N·m

iMeter 7A

Technical Specifications

Voltage Inputs (V1, V2, V3, VN, V4, V4N)	
Standard (Un)	400VLN/690VLL + 20%
Range	5V to 2Un for 400VLN nominal
Overload	2xUn continuous, 4xUn for 1s
Burden	< 0.5VA/per phase
PT Ratio	
Primary	1-1,000,000V
Secondary	1-1,500V
V4 Primary	1-1,000,000V
V4 Secondary	1-1,500V
Measurement Category	CAT III 1000V
Frequency	40Hz-60Hz @ 50Hz, 48Hz-72Hz @ 60Hz
Current Inputs (·I11, I12, ·I21, I22, ·I31, I32, ·I41, I42)	
Standard (In)	5A (Standard), 1A (Optional)
Range	1% to 400% In
Starting Current	0.1% In
Overload	4xIn continuous, 10xIn for 1s
Burden	< 0.5VA/per phase @ 5A < 0.1VA/per phase @ 1A
CT Ratio	
Primary	1-30,000A
Secondary	1-50A
I4 Primary	1-30,000A
I4 Secondary	1-50A
SCCP Options	Split-Core Current Probe Input @ max. 500mV
SCCP-50A-500mV	5A/50A (In/Imax), max. 500mV Output
SCCP-200A-200mV	20A/200A (In/Imax), max. 200mV Output
SCCP-500A-500mV	500A Imax, max. 500mV Output
SCCP-5000-500mV	Selectable 500A/5000A (Imax) Rogowski Coil, max. 500mV Output
SCCT Options	PMC-SCCT-100A-40mA-16-A, Ø=16mm, Class 0.5 PMC-SCCT-200A-40mA-24-A, Ø=24mm, Class 0.5 PMC-SCCT-400A-40mA-35-A, Ø=35mm, Class 0.5 PMC-SCCT-800A-40mA-A, 80x50mm, Class 0.5 PMC-SCCT-1600A-40mA-A, 130x55mm, Class 0.5
SCCTA Option	PMC-SCCT-5A-2mA-16-A, Ø=16mm, Class 1

Power Supply (L+, N-)	
Standard	95-250VAC/VDC ± 10%, 47-440 Hz
Optional	20-60VDC
Burden	< 14VA/10W @ 250VAC/DC, < 6W @ 24VDC
Overvoltage Category	OVC III 300V
Digital Inputs (DIC, DI1, DI2, DI3, DI4, DIC2, DI5, DI6, DI7, DI8)	
Standard	Dry contact, 24VDC internally wetted
Sampling	1000Hz
Hysteresis	1ms minimum
Digital Outputs (DO11, DO12, DO21, DO22, DO31, DO32, DO41, DO42)	
Type	Form A Mechanical Relay
Loading	5A @ 250VAC/30VDC
Alarm Output (Alarm)	
Loading	5A @ 250VAC or 30VDC
Optional Solid State Pulse Outputs (E1+, E1-, E2+, E2-)	
Type	Form A Solid State Relay
Isolation	Optical
Max. Load Voltage	30VDC
Max. Forward Current	100mA
Optional Analog Inputs (AI1+, AI1-, AI2+, AI2-, SH)	
Type	0-20 / 4-20 mA DC
Overload	24 mA maximum
Optional Temperature Inputs (TC11, TC12, TC21, TC22, SH)	
RTD Type	2-Wire PT100 (sensor not included)
Measurement Range	-40°C to +200°C
GPS Input (CLK+, CLK-, SH)	
Type	GPS, IRIG-B
Accuracy	1ms
Terminals Max. Torque	
U & I Inputs	1.2N·m
DI, DO, AI, TC, GPS & RS-485	0.4N·m

Accuracy

Parameters		Accuracy	Resolution
Voltage (U)		±0.1%	0.001V
I1, I2, I3, I4	5A/1A	±0.1%	0.001A
	SCCT/SCCTA	±0.1% + Error of SCCT	
	SCCPA	±0.1% + Error of SCCP	
P, Q, S	5A/1A	±0.2%	0.001W/ var/VA
	SCCT/SCCTA	±0.5%	
	SCCPA	±0.5%	
kWh, kVAh	5A/1A	IEC 62053-22 Class 0.2S	0.1kXh
	SCCT/SCCTA	IEC 62053-21 Class 1	
	SCCPA	IEC 62053-22 Class 0.5S	
kvarh	5A/1A	IEC 62053-24 Class 0.5S IEC 62053-23 Class 2	0.1kvarh
	SCCT/SCCTA	IEC 62053-24 Class 1 IEC 62053-23 Class 2	
	SCCPA	IEC 62053-24 Class 1 IEC 62053-23 Class 2	
PF	5A/1A	±0.2%	0.001
	SCCT/SCCTA	±0.5%	
	SCCPA	±0.5%	
Fundamental Phase Angle	5A/1A	±0.2°	0.1°
	SCCT/SCCTA	±0.2° + Phase Error of SCCT	
	SCCPA	±0.2° + Phase Error of SCCP	
Harmonics Phase Angle	5A/1A	±5°	0.1°
	SCCT/SCCTA	±5° + Phase Error of SCCT	
	SCCPA	±5° + Phase Error of SCCP	
Freq., Freq. Deviation		±0.003 Hz	0.001Hz
Harmonics, Interharmonics		IEC 61000-4-7 Class I	0.01%
U Unbalance		±0.1%	0.01%
I Unbalance		±0.5%	0.01%
Pst, Plt		IEC 61000-4-15 Class F1	0.001

iMeter 7A

Power Supply (L+, N-)	
Standard	95-250VAC/VDC ± 10%, 47-440 Hz
Optional	20-60VDC
Burden	< 14VA/10W @ 250VAC/DC, < 6W @ 24VDC
Overvoltage Category	OVC III 300V
Digital Inputs (DIC, DI1, DI2, DI3, DI4, DIC2, DI5, DI6, DI7, DI8)	
Standard	Dry contact, 24VDC internally wetted
Sampling	1000Hz
Hysteresis	1ms minimum
Digital Outputs (DO11, DO12, DO21, DO22, DO31, DO32, DO41, DO42)	
Type	Form A Mechanical Relay
Loading	5A @ 250VAC/30VDC
Alarm Output (Alarm)	
Loading	5A @ 250VAC or 30VDC
Optional Solid State Pulse Outputs (E1+, E1-, E2+, E2-)	
Type	Form A Solid State Relay
Isolation	Optical
Max. Load Voltage	30VDC
Max. Forward Current	100mA
Optional Analog Inputs (AI1+, AI1-, AI2+, AI2-, SH)	
Type	0-20 / 4-20 mA DC
Overload	24 mA maximum
Optional Temperature Inputs (TC11, TC12, TC21, TC22, SH)	
RTD Type	2-Wire PT100 (sensor not included)
Measurement Range	-40°C to +200°C
GPS Input (CLK+, CLK-, SH)	
Type	GPS, IRIG-B
Accuracy	1ms
Terminals Max. Torque	
U & I Inputs	1.2N·m
DI, DO, AI, TC, GPS & RS-485	0.4N·m

Accuracy

Parameters	Accuracy		Resolution
Voltage (U)	±0.1%		0.001V
I1, I2, I3, I4	5A/1A	±0.1%	0.001A
	SCCT/SCCTA	±0.1% + Error of SCCT	
	SCCPA	±0.1% + Error of SCCP	
P, Q, S	5A/1A	±0.2%	0.001W/ var/VA
	SCCT/SCCTA	±0.5%	
	SCCPA	±0.5%	
kWh, kVAh	5A/1A	IEC 62053-22 Class 0.2S	0.1kXh
	SCCT/SCCTA	IEC 62053-21 Class 1	
	SCCPA	IEC 62053-22 Class 0.5S	
kvarh	5A/1A	IEC 62053-24 Class 0.5S IEC 62053-23 Class 2	0.1kvarh
	SCCT/SCCTA	IEC 62053-24 Class 1 IEC 62053-23 Class 2	
	SCCPA	IEC 62053-24 Class 1 IEC 62053-23 Class 2	
PF	5A/1A	±0.2%	0.001
	SCCT/SCCTA	±0.5%	
	SCCPA	±0.5%	
Fundamental Phase Angle	5A/1A	±0.2°	0.1°
	SCCT/SCCTA	±0.2° + Phase Error of SCCT	
	SCCPA	±0.2° + Phase Error of SCCP	
Harmonics Phase Angle	5A/1A	±5°	0.1°
	SCCT/SCCTA	±5° + Phase Error of SCCT	
	SCCPA	±5° + Phase Error of SCCP	
Freq., Freq. Deviation	±0.003 Hz		0.001Hz
Harmonics, Interharmonics	IEC 61000-4-7 Class I		0.01%
U Unbalance	±0.1%		0.01%
I Unbalance	±0.5%		0.01%
Pst, Plt	IEC 61000-4-15 Class F1		0.001

Technical Specifications

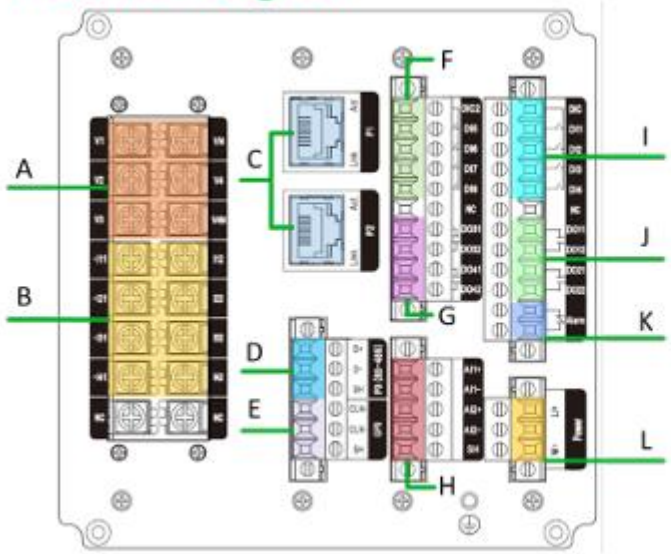
Voltage Inputs (V1, V2, V3, VN, V4, V4N)	
Standard (Un)	400VLN/690VLL + 20%
Range	5V to 2Un for 400VLN nominal
Overload	2xUn continuous, 4xUn for 1s
Burden	< 0.5VA/per phase
PT Ratio	
Primary	1-1,000,000V
Secondary	1-1,500V
V4 Primary	1-1,000,000V
V4 Secondary	1-1,500V
Measurement Category	CAT III 1000V
Frequency	40Hz-60Hz @ 50Hz, 48Hz-72Hz @ 60Hz
Current Inputs (·I11, I12, ·I21, I22, ·I31, I32, ·I41, I42)	
Standard (In)	5A (Standard), 1A (Optional)
Range	1% to 400% In
Starting Current	0.1% In
Overload	4xIn continuous, 10xIn for 1s
Burden	< 0.5VA/per phase @ 5A < 0.1VA/per phase @ 1A
CT Ratio	
Primary	1-30,000A
Secondary	1-50A
I4 Primary	1-30,000A
I4 Secondary	1-50A
SCCP Options	Split-Core Current Probe Input @ max. 500mV
SCCP-50A-500mV	5A/50A (In/Imax), max. 500mV Output
SCCP-200A-200mV	20A/200A (In/Imax), max. 200mV Output
SCCP-500A-500mV	500A Imax, max. 500mV Output
SCCP-5000-500mV	Selectable 500A/5000A (Imax) Rogowski Coil, max. 500mV Output
SCCT Options	PMC-SCCT-100A-40mA-16-A, Ø=16mm, Class 0.5 PMC-SCCT-200A-40mA-24-A, Ø=24mm, Class 0.5 PMC-SCCT-400A-40mA-35-A, Ø=35mm, Class 0.5 PMC-SCCT-800A-40mA-A, 80x50mm, Class 0.5 PMC-SCCT-1600A-40mA-A, 130x55mm, Class 0.5
SCCTA Option	PMC-SCCT-5A-2mA-16-A, Ø=16mm, Class 1

iMeter 7A

Accuracy

Parameters	Accuracy		Resolution
Voltage (U)	±0.1%		0.001V
I1, I2, I3, I4	5A/1A	±0.1%	0.001A
	SCCT/SCCTA	±0.1% + Error of SCCT	
	SCCPA	±0.1% + Error of SCCP	
P, Q, S	5A/1A	±0.2%	0.001W/ var/VA
	SCCT/SCCTA	±0.5%	
	SCCPA	±0.5%	
kWh, kVAh	5A/1A	IEC 62053-22 Class 0.2S	0.1kXh
	SCCT/SCCTA	IEC 62053-21 Class 1	
	SCCPA	IEC 62053-22 Class 0.5S	
kvarh	5A/1A	IEC 62053-24 Class 0.5S IEC 62053-23 Class 2	0.1kvarh
	SCCT/SCCTA	IEC 62053-24 Class 1 IEC 62053-23 Class 2	
	SCCPA	IEC 62053-24 Class 1 IEC 62053-23 Class 2	
PF	5A/1A	±0.2%	0.001
	SCCT/SCCTA	±0.5%	
	SCCPA	±0.5%	
Fundamental Phase Angle	5A/1A	±0.2°	0.1°
	SCCT/SCCTA	±0.2° + Phase Error of SCCT	
	SCCPA	±0.2° + Phase Error of SCCP	
Harmonics Phase Angle	5A/1A	±5°	0.1°
	SCCT/SCCTA	±5° + Phase Error of SCCT	
	SCCPA	±5° + Phase Error of SCCP	
Freq., Freq. Deviation	±0.003 Hz		0.001Hz
Harmonics, Interharmonics	IEC 61000-4-7 Class I		0.01%
U Unbalance	±0.1%		0.01%
I Unbalance	±0.5%		0.01%
Pst, Plt	IEC 61000-4-15 Class F1		0.001

Terminals Diagram



A	Voltage Inputs
B	Current Inputs
C	10/100BaseT Ethernet Ports
D	RS-485 Port
E	GPS Input
F	Optional Digital Inputs
G	Optional Digital Outputs
H	Optional Analog Inputs
I	Standard Digital Inputs
J	Standard Digital Outputs
K	Alarm Output
L	Power Supply

(8xDI + 5xDO + 2xAI)

Power Supply (L+, N-)	
Standard	95-250VAC/VDC ± 10%, 47-440 Hz
Optional	20-60VDC
Burden	< 14VA/10W @ 250VAC/DC, < 6W @ 24VDC
Overvoltage Category	OVC III 300V
Digital Inputs (DIC, DI1, DI2, DI3, DI4, DIC2, DI5, DI6, DI7, DI8)	
Standard	Dry contact, 24VDC internally wetted
Sampling	1000Hz
Hysteresis	1ms minimum
Digital Outputs (DO11, DO12, DO21, DO22, DO31, DO32, DO41, DO42)	
Type	Form A Mechanical Relay
Loading	5A @ 250VAC/30VDC
Alarm Output (Alarm)	
Loading	5A @ 250VAC or 30VDC
Optional Solid State Pulse Outputs (E1+, E1-, E2+, E2-)	
Type	Form A Solid State Relay
Isolation	Optical
Max. Load Voltage	30VDC
Max. Forward Current	100mA
Optional Analog Inputs (AI1+, AI1-, AI2+, AI2-, SH)	
Type	0-20 / 4-20 mA DC
Overload	24 mA maximum
Optional Temperature Inputs (TC11, TC12, TC21, TC22, SH)	
RTD Type	2-Wire PT100 (sensor not included)
Measurement Range	-40°C to +200°C
GPS Input (CLK+, CLK-, SH)	
Type	GPS, IRIG-B
Accuracy	1ms
Terminals Max. Torque	
U & I Inputs	1.2N·m
DI, DO, AI, TC, GPS & RS-485	0.4N·m

محصولات

iMeter 5

iMeter D7

iMeter 7A

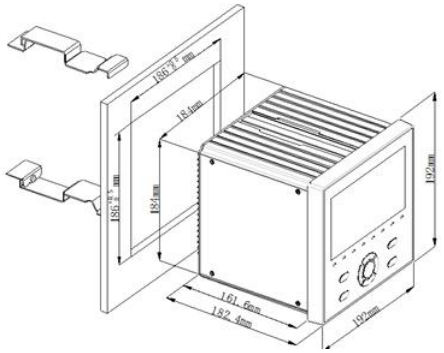
iMeter 8

PMC-592

PMC-680D

iMeter 8

مناسب برای پست‌ها، صنایع حساس و پروژه‌هایی با الزاماتPQ



- **فرم‌فکتور بزرگ۱۹۲×۱۹۲ mm با نمایشگر رنگی بزرگ**
- **کلاس S۰.۲ ، IEC 61000-4-30 Class A، EN50160، IEEE 519، IEC61850**
- **حافظه داخلی تا ۸ GB برای لاگ‌های طولانی‌مدت**
- **ثبت موج (Waveform Recording) در فرمت COMTRADE، نیم سیکل RMS، هارمونیک / اینترهارمونیک**
- **پشتیبانی از Ethernet، RS-485، Modbus، IEC61850، گزینه‌های I/O اگسترده**

معادلِ دستگاه:

ION 9000

iMeter 8

Accuracy

Parameters	Accuracy	Resolution
Voltage (U)	±0.1%	0.001V
I1, I2, I3	±0.1%	0.001A
	SCCPA Option: ±0.1% + Error of SCCP	
I4	±0.1%	
I5	±0.5%	
P, Q, S	±0.2%	0.001kX
	SCCPA Option: ±0.5%	
kWh, kVAh	IEC 62053-22 Class 0.2S	0.1kXh
	SCCPA Option: IEC 62053-21 Class 1	
kvarh	IEC 62053-24 Class 0.5S IEC 62053-23 Class 2	0.1kvarh
	SCCPA Option: IEC 62053-24 Class 1	
PF	±0.2%	0.001
	SCCPA Option: ±0.5%	
Frequency	±0.003 Hz	0.001Hz
Harmonics	IEC 61000-4-7 Class I	0.001
Phase Angle	±0.2°	0.1°
	SCCPA Option: ±0.2° + Phase Error of SCCP	
U Unbalance	±0.1 %	0.01%
I Unbalance	±0.5%	0.01%
Pst, Plt	IEC 61000-4-15 Class F1	0.01%

Technical Specifications

Voltage Inputs (V1, V2, V3, VN, V4, V4N)	
Standard (Un)	400ULN/690ULL +20%
Range	1% to 200% Un for 400ULN nominal
Overload	2xUn continuous, 4xUn for 1s
Burden	< 0.5VA/per phase
PT Ratio	
Primary	1-1,000,000V
Secondary	1-1,500V
V4 Primary	1-1,000,000V
V4 Secondary	1-1,500V
Measurement Category	CAT III 1000V
Frequency	40Hz-60Hz @ 50Hz, 48Hz-72Hz @ 60Hz
Current Inputs (I11, I12, I21, I22, I31, I32, I41, I42, I51, I52)	
Standard (In)	5A (Standard), 1A (Optional)
Range	1% to 400% In
Starting Current	0.1% In
Overload	4xIn continuous, 20xIn for 1s
Burden	< 0.5VA/per phase @ 5A
	< 0.1VA/per phase @ 1A
Optional SCCP Options	Split-Core Current Probe Input @ 500mV
SCCP-50A-500mV	5A/50A (In/Imax), max. 500mV Output
SCCP-200A-200mV	20A/200A (In/Imax), max. 200mV Output
SCCP-500A-500mV	500A Imax, max. 500mV Output
SCCP-5000A-500mV	Selectable 500A/5000A (Imax) Rogowski Coil, max. 500mV Output
CT Ratio	
Primary	1-30,000A
Secondary	1-50A
I4 Primary	1-30,000A
I4 Secondary	1-50A
Power Supply (L+, N-)	
Standard	95-250VAC/VDC ± 10%, 47-440 Hz
Optional	20-60VDC
Burden	< 12W
Overvoltage Category	OVC III 300V

Digital Inputs (DIC, DI1 to DI8 or DI16)	
Standard	Dry contact, 24VDC internally wetted
Optional	110V/220V AC/DC externally wetted
Sampling	1000Hz
Hysteresis	1ms minimum
Form A Relay Outputs (DO1 to DO3 or optional DO1 to DO7)	
Type	Form A Mechanical Relay
Loading	5A @ 250VAC / 30VDC
Form C Relay Output (Alarm 1, 2, 3)	
Type	Form C Mechanical Relay
Loading	8A @ 250VAC / 24VDC
Pulse Outputs (E1+, E1-, E2+, E2-, E3+, E3-, E4+, E4-)	
Type	Form A Solid State Relay
Isolation	Optical
Max. Load Voltage	30VDC
Max. Forward Current	4mA
Optional Analog Inputs (AI1+, AI1-, AI2+, AI2-)	
Type	0-20 / 4-20 mA DC
Overload	24 mA maximum
Optional Analog Outputs (AO1+, AO1-, AO2+, AO2-)	
Type	0-20 / 4-20 mA
Loading	500Ω maximum
Overload	24 mA maximum
Environmental Conditions	
Operating Temperature	-25°C to 70°C
Storage Temperature	-40°C to 85°C
Humidity	5% to 95% non-condensing
Atmospheric Pressure	63 kPa to 110 kPa
Pollution Degree	2
Mechanical Characteristics	
Panel Cutout	186x186 mm
Unit Dimensions	192x192x182.4 mm
IP Rating	52

iMeter 8

Technical Specifications

Voltage Inputs (V1, V2, V3, VN, V4, V4N)	
Standard (Un)	400ULN/690ULL +20%
Range	1% to 200% Un for 400ULN nominal
Overload	2xUn continuous, 4xUn for 1s
Burden	< 0.5VA/per phase
PT Ratio	
Primary	1-1,000,000V
Secondary	1-1,500V
V4 Primary	1-1,000,000V
V4 Secondary	1-1,500V
Measurement Category	CAT III 1000V
Frequency	40Hz-60Hz @ 50Hz, 48Hz-72Hz @ 60Hz
Current Inputs (I11, I12, I21, I22, I31, I32, I41, I42, I51, I52)	
Standard (In)	5A (Standard), 1A (Optional)
Range	1% to 400% In
Starting Current	0.1% In
Overload	4xIn continuous, 20xIn for 1s
Burden	< 0.5VA/per phase @ 5A < 0.1VA/per phase @ 1A
Optional SCCP Options	Split-Core Current Probe Input @ 500mV
SCCP-50A-500mV	5A/50A (In/Imax), max. 500mV Output
SCCP-200A-200mV	20A/200A (In/Imax), max. 200mV Output
SCCP-500A-500mV	500A Imax, max. 500mV Output
SCCP-5000A-500mV	Selectable 500A/5000A (Imax) Rogowski Coil, max. 500mV Output
CT Ratio	
Primary	1-30,000A
Secondary	1-50A
I4 Primary	1-30,000A
I4 Secondary	1-50A
Power Supply (L+, N-)	
Standard	95-250VAC/VDC ± 10%, 47-440 Hz
Optional	20-60VDC
Burden	< 12W
Overvoltage Category	OVC III 300V

Digital Inputs (DIC, DI1 to DI8 or DI16)	
Standard	Dry contact, 24VDC internally wetted
Optional	110V/220V AC/DC externally wetted
Sampling	1000Hz
Hysteresis	1ms minimum
Form A Relay Outputs (DO1 to DO3 or optional DO1 to DO7)	
Type	Form A Mechanical Relay
Loading	5A @ 250VAC / 30VDC
Form C Relay Output (Alarm 1, 2, 3)	
Type	Form C Mechanical Relay
Loading	8A @ 250VAC / 24VDC
Pulse Outputs (E1+, E1-, E2+, E2-, E3+, E3-, E4+, E4-)	
Type	Form A Solid State Relay
Isolation	Optical
Max. Load Voltage	30VDC
Max. Forward Current	4mA
Optional Analog Inputs (AI1+, AI1-, AI2+, AI2-)	
Type	0-20 / 4-20 mA DC
Overload	24 mA maximum
Optional Analog Outputs (AO1+, AO1-, AO2+, AO2-)	
Type	0-20 / 4-20 mA
Loading	500Ω maximum
Overload	24 mA maximum
Environmental Conditions	
Operating Temperature	-25°C to 70°C
Storage Temperature	-40°C to 85°C
Humidity	5% to 95% non-condensing
Atmospheric Pressure	63 kPa to 110 kPa
Pollution Degree	2
Mechanical Characteristics	
Panel Cutout	186x186 mm
Unit Dimensions	192x192x182.4 mm
IP Rating	52

Accuracy

Parameters	Accuracy	Resolution
Voltage (U)	±0.1%	0.001V
I1, I2, I3	±0.1% SCCPA Option: ±0.1% + Error of SCCP	0.001A
I4	±0.1%	
I5	±0.5%	
P, Q, S	±0.2% SCCPA Option: ±0.5%	0.001kX
kWh, kVAh	IEC 62053-22 Class 0.2S SCCPA Option: IEC 62053-21 Class 1	0.1kXh
kvarh	IEC 62053-24 Class 0.5S IEC 62053-23 Class 2 SCCPA Option: IEC 62053-24 Class 1	0.1kvarh
PF	±0.2% SCCPA Option: ±0.5%	0.001
Frequency	±0.003 Hz	0.001Hz
Harmonics	IEC 61000-4-7 Class I	0.001
Phase Angle	±0.2° SCCPA Option: ±0.2° + Phase Error of SCCP	0.1°
U Unbalance	±0.1 %	0.01%
I Unbalance	±0.5%	0.01%
Pst, Plt	IEC 61000-4-15 Class F1	0.01%

iMeter 8

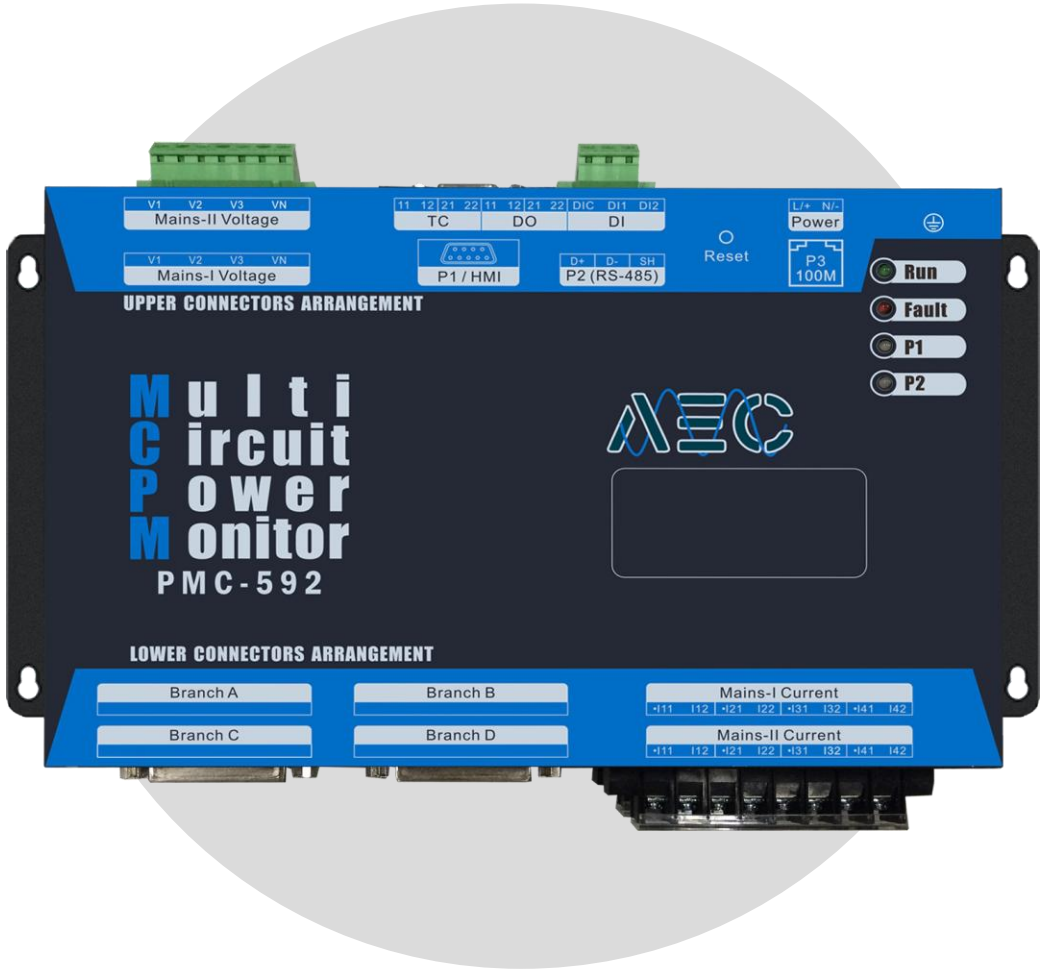
Digital Inputs (DIC, DI1 to DI8 or DI16)	
Standard	Dry contact, 24VDC internally wetted
Optional	110V/220V AC/DC externally wetted
Sampling	1000Hz
Hysteresis	1ms minimum
Form A Relay Outputs (DO1 to DO3 or optional DO1 to DO7)	
Type	Form A Mechanical Relay
Loading	5A @ 250VAC / 30VDC
Form C Relay Output (Alarm 1, 2, 3)	
Type	Form C Mechanical Relay
Loading	8A @ 250VAC / 24VDC
Pulse Outputs (E1+, E1-, E2+, E2-, E3+, E3-, E4+, E4-)	
Type	Form A Solid State Relay
Isolation	Optical
Max. Load Voltage	30VDC
Max. Forward Current	4mA
Optional Analog Inputs (AI1+, AI1-, AI2+, AI2-)	
Type	0-20 / 4-20 mA DC
Overload	24 mA maximum
Optional Analog Outputs (AO1+, AO1-, AO2+, AO2-)	
Type	0-20 / 4-20 mA
Loading	500Ω maximum
Overload	24 mA maximum
Environmental Conditions	
Operating Temperature	-25°C to 70°C
Storage Temperature	-40°C to 85°C
Humidity	5% to 95% non-condensing
Atmospheric Pressure	63 kPa to 110 kPa
Pollution Degree	2
Mechanical Characteristics	
Panel Cutout	186x186 mm
Unit Dimensions	192x192x182.4 mm
IP Rating	52

Accuracy

Parameters	Accuracy	Resolution
Voltage (U)	±0.1%	0.001V
I1, I2, I3	±0.1%	0.001A
	SCCPA Option: ±0.1% + Error of SCCP	
I4	±0.1%	
I5	±0.5%	
P, Q, S	±0.2%	0.001kX
	SCCPA Option: ±0.5%	
kWh, kVAh	IEC 62053-22 Class 0.2S	0.1kXh
	SCCPA Option: IEC 62053-21 Class 1	
kvarh	IEC 62053-24 Class 0.5S IEC 62053-23 Class 2	0.1kvarh
	SCCPA Option: IEC 62053-24 Class 1	
PF	±0.2%	0.001
	SCCPA Option: ±0.5%	
Frequency	±0.003 Hz	0.001Hz
Harmonics	IEC 61000-4-7 Class I	0.001
Phase Angle	±0.2°	0.1°
	SCCPA Option: ±0.2° + Phase Error of SCCP	
U Unbalance	±0.1 %	0.01%
I Unbalance	±0.5%	0.01%
Pst, Plt	IEC 61000-4-15 Class F1	0.01%

Technical Specifications

Voltage Inputs (V1, V2, V3, VN, V4, V4N)	
Standard (Un)	400ULN/690ULL +20%
Range	1% to 200% Un for 400ULN nominal
Overload	2xUn continuous, 4xUn for 1s
Burden	< 0.5VA/per phase
PT Ratio	
Primary	1-1,000,000V
Secondary	1-1,500V
V4 Primary	1-1,000,000V
V4 Secondary	1-1,500V
Measurement Category	CAT III 1000V
Frequency	40Hz-60Hz @ 50Hz, 48Hz-72Hz @ 60Hz
Current Inputs (I11, I12, I21, I22, I31, I32, I41, I42, I51, I52)	
Standard (In)	5A (Standard), 1A (Optional)
Range	1% to 400% In
Starting Current	0.1% In
Overload	4xIn continuous, 20xIn for 1s
Burden	< 0.5VA/per phase @ 5A < 0.1VA/per phase @ 1A
Optional SCCP Options	Split-Core Current Probe Input @ 500mV
SCCP-50A-500mV	5A/50A (In/Imax), max. 500mV Output
SCCP-200A-200mV	20A/200A (In/Imax), max. 200mV Output
SCCP-500A-500mV	500A Imax, max. 500mV Output
SCCP-5000A-500mV	Selectable 500A/5000A (Imax) Rogowski Coil, max. 500mV Output
CT Ratio	
Primary	1-30,000A
Secondary	1-50A
I4 Primary	1-30,000A
I4 Secondary	1-50A
Power Supply (L+, N-)	
Standard	95-250VAC/VDC ± 10%, 47-440 Hz
Optional	20-60VDC
Burden	< 12W
Overvoltage Category	OVC III 300V



محصولات

iMeter 5

iMeter D7

iMeter 7A

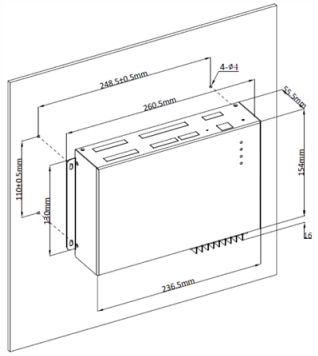
iMeter 8

PMC-592

PMC-680D

PMC-592

دستگاه مانیتورینگ چندمداره، برای تابلوهای توزیع با تعداد زیاد خروجی و مانیتورینگ چند انشعاب در یک دستگاه.



- دو ورودی اصلی (Mains) و تا ۸٤ ورودی Branch برای مدارهای فرعی
- مناسب برای زیرساخت چندفیدره، دیتا سنترها، ساختمان‌های تجاری و کارخانه‌هایی که می‌خواهند مصرف هر فیدر را جداگانه ببینند.
- طراحی فشرده برای چگالی بالای اندازه‌گیری در یک تابلو.
- امکان استفاده برای Cost Allocation، Sub-metering و Billing داخلی


Lower Connectors


Upper Connectors


Touch Screen HMI


CT Strips


Branch SCCT Adapter Board


Branch Cable


Mains SCCT


100-1600A Branch SCCT


RTD Temperature Sensor

PMC-592

Accuracy

Parameters	Accuracy	Resolution
Mains Voltage	±0.2%	0.01V
Mains I1 - I4	±0.2%	0.001A
kW, kVA	IEC 62053-22 Class 0.5S for Mains	0.001kX
kWh, kVAh	IEC 62053-21 Class 1 for Branches	0.1kXh
kvar, kvarh	IEC 62053-23 Class 2	0.001kvar 0.1kvarh
PF	1%	0.001
Frequency	±0.02 Hz	0.01Hz
Harmonics	IEC 61000-4-7 Class B	0.01%
K-Factor	IEC 61000-4-7 Class B	0.01
RTD	±1.0°	0.1°

Technical Specifications

Main Voltage Inputs (V1, V2, V3, VN)	
Standard (Un)	277ULN/480ULL
Range	10% to 120% Un
PT Ratio	
Mains I/II-Primary	1-1,000,000V
Mains I/II-Secondary	1-480V
Overload	2xUn continuous, 4xUn for 1s
Burden	<0.05VA@277ULN per phase
Frequency	45-65Hz
Mains Current Inputs	
I Nominal (In)	5A/1A (CT rated Input)
Range	1% to 120%
Starting Current	0.3% of In
CT Ratio	6000 max. for 5A, 30000 max. for 1A
Overload	1.2xIn continuous, 10xIn for 1s
Burden	<0.3VA per phase
Power Supply for Main Unit (L+, N-)	
Standard	95-277VAC/DC, ±10%, 47-440Hz
Burden	<6W
Branch Inputs	
CT Ratio	400 Maximum
Burden	<0.05VA per phase
Starting Current	0.2% Imax
Solid-Core CT Strip	
100A	In=100A, Imax=100A, Range= 0.2%-100%
5A	In=5A, Imax=10A, Range= 1%-100%
Split-Core CT	
100A	In=100A, Imax=120A, Range= 5%-120%
200A	In=200A, Imax=240A, Range= 5%-120%
400A	In=400A, Imax=480A, Range= 5%-120%
800A	In=800A, Imax=960A, Range= 5%-120%
1600A	In=1.6kA, Imax=1.92kA, Range= 5%-120%
Solid-Core CT	
400A	In=400A, Imax=480A, Range= 5%-120%
800A	In=800A, Imax=960A, Range= 5%-120%

Digital Inputs (DI1, DI2, DIC)	
Type	Dry contact, 24VDC internally wetted
Sampling	1000Hz
Debounce	1-9999 ms programmable
Digital Outputs (DO11, DO12, DO21, DO22)	
Type	Form A Mechanical Relay
Loading	5A@250VAC/30VDC
RTD Inputs (TC11, TC12, TC21, TC22)	
Type	PT100
Range	-40 °C to 200 °C
Environmental Conditions	
Operating Temp.	-25°C to +70°C
Storage Temp.	-40°C to +85°C
Humidity	5% to 95% non-condensing
Atmospheric Pressure	70 kPa to 106 kPa
Pollution Degree	2
Overvoltage Category	CAT III
Mechanical Characteristics	
Enclosure	Galvanized Steel
Unit Dimensions	260.5x154x55.5mm
IP Rating	50

PMC-592

Technical Specifications

Main Voltage Inputs (V1, V2, V3, VN)	
Standard (Un)	277ULN/480ULL
Range	10% to 120% Un
PT Ratio	
Mains I/II-Primary	1-1,000,000V
Mains I/II-Secondary	1-480V
Overload	2xUn continuous, 4xUn for 1s
Burden	<0.05VA@277ULN per phase
Frequency	45-65Hz
Mains Current Inputs	
I Nominal (In)	5A/1A (CT rated Input)
Range	1% to 120%
Starting Current	0.3% of In
CT Ratio	6000 max. for 5A, 30000 max. for 1A
Overload	1.2xIn continuous, 10xIn for 1s
Burden	<0.3VA per phase
Power Supply for Main Unit (L+, N-)	
Standard	95-277VAC/DC, ±10%, 47-440Hz
Burden	<6W
Branch Inputs	
CT Ratio	400 Maximum
Burden	<0.05VA per phase
Starting Current	0.2% Imax
Solid-Core CT Strip	
100A	In=100A, Imax=100A, Range= 0.2%-100%
5A	In=5A, Imax=10A, Range= 1%-100%
Split-Core CT	
100A	In=100A, Imax=120A, Range= 5%-120%
200A	In=200A, Imax=240A, Range= 5%-120%
400A	In=400A, Imax=480A, Range= 5%-120%
800A	In=800A, Imax=960A, Range= 5%-120%
1600A	In=1.6kA, Imax=1.92kA, Range= 5%-120%
Solid-Core CT	
400A	In=400A, Imax=480A, Range= 5%-120%
800A	In=800A, Imax=960A, Range= 5%-120%

Digital Inputs (DI1, DI2, DIC)	
Type	Dry contact, 24VDC internally wetted
Sampling	1000Hz
Debounce	1-9999 ms programmable
Digital Outputs (DO11, DO12, DO21, DO22)	
Type	Form A Mechanical Relay
Loading	5A@250VAC/30VDC
RTD Inputs (TC11, TC12, TC21, TC22)	
Type	PT100
Range	-40 °C to 200 °C
Environmental Conditions	
Operating Temp.	-25°C to +70°C
Storage Temp.	-40°C to +85°C
Humidity	5% to 95% non-condensing
Atmospheric Pressure	70 kPa to 106 kPa
Pollution Degree	2
Overvoltage Category	CAT III
Mechanical Characteristics	
Enclosure	Galvanized Steel
Unit Dimensions	260.5x154x55.5mm
IP Rating	50

Accuracy

Parameters	Accuracy	Resolution
Mains Voltage	±0.2%	0.01V
Mains I1 - I4	±0.2%	0.001A
kW, kVA	IEC 62053-22 Class 0.5S for Mains	0.001kX
kWh, kVAh	IEC 62053-21 Class 1 for Branches	0.1kXh
kvar, kvarh	IEC 62053-23 Class 2	0.001kvar 0.1kvarh
PF	1%	0.001
Frequency	±0.02 Hz	0.01Hz
Harmonics	IEC 61000-4-7 Class B	0.01%
K-Factor	IEC 61000-4-7 Class B	0.01
RTD	±1.0°	0.1°

PMC-592

Digital Inputs (DI1, DI2, DIC)	
Type	Dry contact, 24VDC internally wetted
Sampling	1000Hz
Debounce	1-9999 ms programmable
Digital Outputs (DO11, DO12, DO21, DO22)	
Type	Form A Mechanical Relay
Loading	5A@250VAC/30VDC
RTD Inputs (TC11, TC12, TC21, TC22)	
Type	PT100
Range	-40 °C to 200 °C
Environmental Conditions	
Operating Temp.	-25°C to +70°C
Storage Temp.	-40°C to +85°C
Humidity	5% to 95% non-condensing
Atmospheric Pressure	70 kPa to 106 kPa
Pollution Degree	2
Overvoltage Category	CAT III
Mechanical Characteristics	
Enclosure	Galvanized Steel
Unit Dimensions	260.5x154x55.5mm
IP Rating	50

Accuracy

Parameters	Accuracy	Resolution
Mains Voltage	±0.2%	0.01V
Mains I1 - I4	±0.2%	0.001A
kW, kVA	IEC 62053-22 Class 0.5S for Mains	0.001kX
kWh, kVAh	IEC 62053-21 Class 1 for Branches	0.1kXh
kvar, kvarh	IEC 62053-23 Class 2	0.001kvar 0.1kvarh
PF	1%	0.001
Frequency	±0.02 Hz	0.01Hz
Harmonics	IEC 61000-4-7 Class B	0.01%
K-Factor	IEC 61000-4-7 Class B	0.01
RTD	±1.0°	0.1°

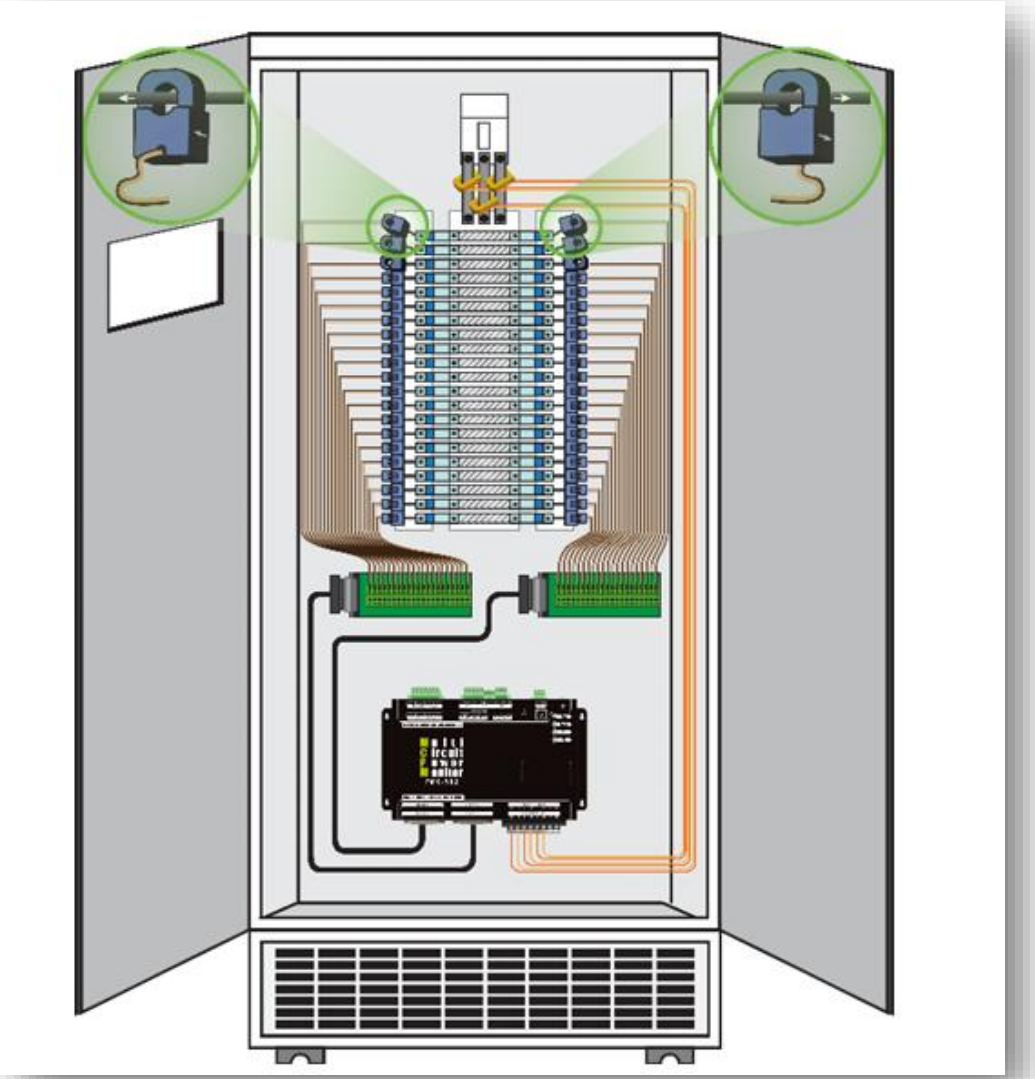
Technical Specifications

Main Voltage Inputs (V1, V2, V3, VN)	
Standard (Un)	277ULN/480ULL
Range	10% to 120% Un
PT Ratio	
Mains I/II-Primary	1-1,000,000V
Mains I/II-Secondary	1-480V
Overload	2xUn continuous, 4xUn for 1s
Burden	<0.05VA@277ULN per phase
Frequency	45-65Hz
Mains Current Inputs	
I Nominal (In)	5A/1A (CT rated Input)
Range	1% to 120%
Starting Current	0.3% of In
CT Ratio	6000 max. for 5A, 30000 max. for 1A
Overload	1.2xIn continuous, 10xIn for 1s
Burden	<0.3VA per phase
Power Supply for Main Unit (L+, N-)	
Standard	95-277VAC/DC, ±10%, 47-440Hz
Burden	<6W
Branch Inputs	
CT Ratio	400 Maximum
Burden	<0.05VA per phase
Starting Current	0.2% Imax
Solid-Core CT Strip	
100A	In=100A, Imax=100A, Range= 0.2%-100%
5A	In=5A, Imax=10A, Range= 1%-100%
Split-Core CT	
100A	In=100A, Imax=120A, Range= 5%-120%
200A	In=200A, Imax=240A, Range= 5%-120%
400A	In=400A, Imax=480A, Range= 5%-120%
800A	In=800A, Imax=960A, Range= 5%-120%
1600A	In=1.6kA, Imax=1.92kA, Range= 5%-120%
Solid-Core CT	
400A	In=400A, Imax=480A, Range= 5%-120%
800A	In=800A, Imax=960A, Range= 5%-120%

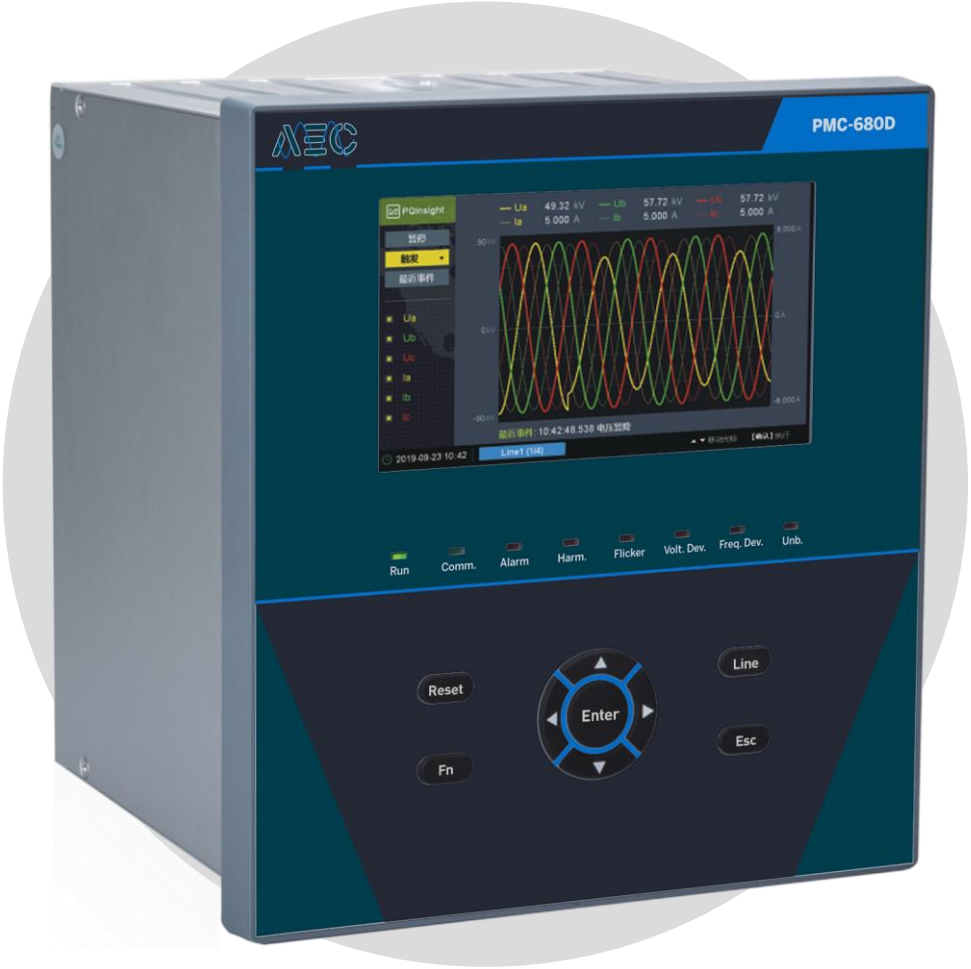
PMC-592

Accuracy

Parameters	Accuracy	Resolution
Mains Voltage	±0.2%	0.01V
Mains I1 - I4	±0.2%	0.001A
kW, kVA	IEC 62053-22 Class 0.5S for Mains	0.001kX
kWh, kVAh	IEC 62053-21 Class 1 for Branches	0.1kXh
kvar, kvarh	IEC 62053-23 Class 2	0.001kvar 0.1kvarh
PF	1%	0.001
Frequency	±0.02 Hz	0.01Hz
Harmonics	IEC 61000-4-7 Class B	0.01%
K-Factor	IEC 61000-4-7 Class B	0.01
RTD	±1.0°	0.1°



Digital Inputs (DI1, DI2, DIC)	
Type	Dry contact, 24VDC internally wetted
Sampling	1000Hz
Debounce	1-9999 ms programmable
Digital Outputs (DO11, DO12, DO21, DO22)	
Type	Form A Mechanical Relay
Loading	5A@250VAC/30VDC
RTD Inputs (TC11, TC12, TC21, TC22)	
Type	PT100
Range	-40 °C to 200 °C
Environmental Conditions	
Operating Temp.	-25°C to +70°C
Storage Temp.	-40°C to +85°C
Humidity	5% to 95% non-condensing
Atmospheric Pressure	70 kPa to 106 kPa
Pollution Degree	2
Overvoltage Category	CAT III
Mechanical Characteristics	
Enclosure	Galvanized Steel
Unit Dimensions	260.5x154x55.5mm
IP Rating	50



iMeter 5

iMeter D7

iMeter 7A

iMeter 8

PMC-592

PMC-680D

محصولات

www.atrakenergy-aras.ir

PMC-680D

یک دستگاهPower Quality Analyzer برای پست‌های برق دیجیتال است.

- **پشتیبانی از ٤ Merging Unitبرای اندازه‌گیری همزمان چند فیدر**
- **نرخ نمونه‌برداری ٥١٢** samples/cycle
- **هارمونیک و اینترهارمونیک: تا مرتبه ٦٣**
- Transient captureبا **٤٠ میکروثانیه**
- **حافظه بسیار بزرگ ١٦** GB
- **صفحه هفت‌اینچی با رزولوشن ٨٠٠×٤٨٠**
- **پروتکل‌ها:** Modbus RTU, Modbus TCP, IEC 61850, SNTP،
- **ورودی دیجیتال: ١٦ DI/ خروجی دیجیتال: ٨** DO + Alarm
- **مناسب برای کاربردهای** Utility, Transmission, Substation Automation

PMC-680D

Basic function		Content
recording		samples/cycle Each circuit can record up to 10,000 items The interval between recordings can be set from 1 to 1440 minutes
	RMS record	Each circuit can record up to 128 items
Cyber Security	Cyber Security function	■
IO	digit input (DI)	16 items , internal/external incentives*
	digit output (DO)	8 items (7DO+1Alarm)
LCD	display	7' color LCD screen
	Resolution (pixels)	800×480
communication	Ethernet port	2, 10/100/1000M adaptive
	RS-485 communication port	2
	communicating protocol	Modbus RTU、Modbus TCP、IEC61850
Time Synchronization	SNTP	■
	Modbus	■
	GPS	■
	IRIG-B	■
	IEEE 1588	■
Memory	capacity	16GB

Basic function		Content
Digital signal input		A maximum of 4 merge units(MU) can be connected
Basic measurements (full wave/fundamental wave)	voltage, current	■
	active, reactive and apparent power	■
	power factor	■
	frequency	■
steady-state power quality	waveform sampling rate	512 samples/cycle
	harmonic	2 to 63rd
	interharmonics	0 to 63rd
	voltage deviation	■
	frequency deviation	■
	unbalance and sequence components	■
	voltage fluctuation	■
	flicker	■
momentary power quality	sag/swell/interruption monitoring	■
	inrush Current	■
	flagging	■
	ITIC/SEMI F47 curve	■
transient power quality	transient capture	40μs
	the sudden variables	■

Power quality statistics and evaluation	SDR(statistical data recorder)	Each group for one circuit record up to 1024 variables The interval time can be set from 0min to 60min
	Flicker recorder	Provides long and short flash records
	Pass rate statistics	Voltage, frequency and long-term flicker qualification rate statistics
setpoint	Ordinary setpoint	256 variables for each circuit
	Trigger alarm	■
SOE	Monitoring events (1 ms)	1024 events each circuit @ 1ms resolution
	Device log (1ms)	1024 events each circuit @ 1ms resolution
	Self-test of the device	■
	event count	■
data logging	PQDIF	■
waveform	waveform recording	512 samples/cycle, 256 samples/cycle, 128

PMC-680D

Basic function		Content
Digital signal input		A maximum of 4 merge units(MU) can be connected
Basic measurements (full wave/fundamental wave)	voltage, current	■
	active, reactive and apparent power	■
	power factor	■
	frequency	■
steady-state power quality	waveform sampling rate	512 samples/cycle
	harmonic	2 to 63rd
	interharmonics	0 to 63rd
	voltage deviation	■
	frequency deviation	■
	unbalance and sequence components	■
	voltage fluctuation	■
	flicker	■
momentary power quality	sag/swell/interruption monitoring	■
	inrush Current	■
	flagging	■
	ITIC/SEMI F47 curve	■
transient power quality	transient capture	40μs
	the sudden variables	■

Power quality statistics and evaluation	SDR(statistical data recorder)	Each group for one circuit record up to 1024 variables The interval time can be set from 0min to 60min
	Flicker recorder	Provides long and short flash records
	Pass rate statistics	Voltage, frequency and long-term flicker qualification rate statistics
setpoint	Ordinary setpoint	256 variables for each circuit
	Trigger alarm	■
SOE	Monitoring events (1 ms)	1024 events each circuit @ 1ms resolution
	Device log (1ms)	1024 events each circuit @ 1ms resolution
	Self-test of the device	■
	event count	■
data logging	PQDIF	■
waveform	waveform recording	512 samples/cycle, 256 samples/cycle, 128

Basic function		Content
recording		samples/cycle Each circuit can record up to 10,000 items The interval between recordings can be set from 1 to 1440 minutes
	RMS record	Each circuit can record up to 128 items
Cyber Security	Cyber Security function	■
IO	digit input (DI)	16 items , internal/external incentives*
	digit output (DO)	8 items (7DO+1Alarm)
LCD	display	7' color LCD screen
	Resolution (pixels)	800×480
communication	Ethernet port	2, 10/100/1000M adaptive
	RS-485 communication port	2
	communicating protocol	Modbus RTU、Modbus TCP、IEC61850
Time Synchronization	SNTP	■
	Modbus	■
	GPS	■
	IRIG-B	■
	IEEE 1588	■
Memory	capacity	16GB

PMC-680D

Power quality statistics and evaluation	SDR(statistical data recorder)	Each group for one circuit record up to 1024 variables The interval time can be set from 0min to 60min
	Flicker recorder	Provides long and short flash records
	Pass rate statistics	Voltage, frequency and long-term flicker qualification rate statistics
setpoint	Ordinary setpoint	256 variables for each circuit
	Trigger alarm	■
SOE	Monitoring events (1 ms)	1024 events each circuit @ 1ms resolution
	Device log (1ms)	1024 events each circuit @ 1ms resolution
	Self-test of the device	■
	event count	■
data logging	PQDIF	■
waveform	waveform recording	512 samples/cycle, 256 samples/cycle, 128

Basic function		Content
recording		samples/cycle Each circuit can record up to 10,000 items The interval between recordings can be set from 1 to 1440 minutes
	RMS record	Each circuit can record up to 128 items
Cyber Security	Cyber Security function	■
IO	digit input (DI)	16 items , internal/external incentives*
	digit output (DO)	8 items (7DO+1Alarm)
LCD	display	7’ color LCD screen
	Resolution (pixels)	800×480
communication	Ethernet port	2, 10/100/1000M adaptive
	RS-485 communication port	2
	communicating protocol	Modbus RTU、Modbus TCP、IEC61850
Time Synchronization	SNTP	■
	Modbus	■
	GPS	■
	IRIG-B	■
	IEEE 1588	■
Memory	capacity	16GB

Basic function		Content
Digital signal input		A maximum of 4 merge units(MU) can be connected
Basic measurements (full wave/fundamental wave)	voltage, current	■
	active, reactive and apparent power	■
	power factor	■
	frequency	■
steady-state power quality	waveform sampling rate	512 samples/cycle
	harmonic	2 to 63rd
	interharmonics	0 to 63rd
	voltage deviation	■
	frequency deviation	■
	unbalance and sequence components	■
	voltage fluctuation	■
	flicker	■
momentary power quality	sag/swell/interruption monitoring	■
	inrush Current	■
	flagging	■
	ITIC/SEMI F47 curve	■
transient power quality	transient capture	40μs
	the sudden variables	■

PMC-680D

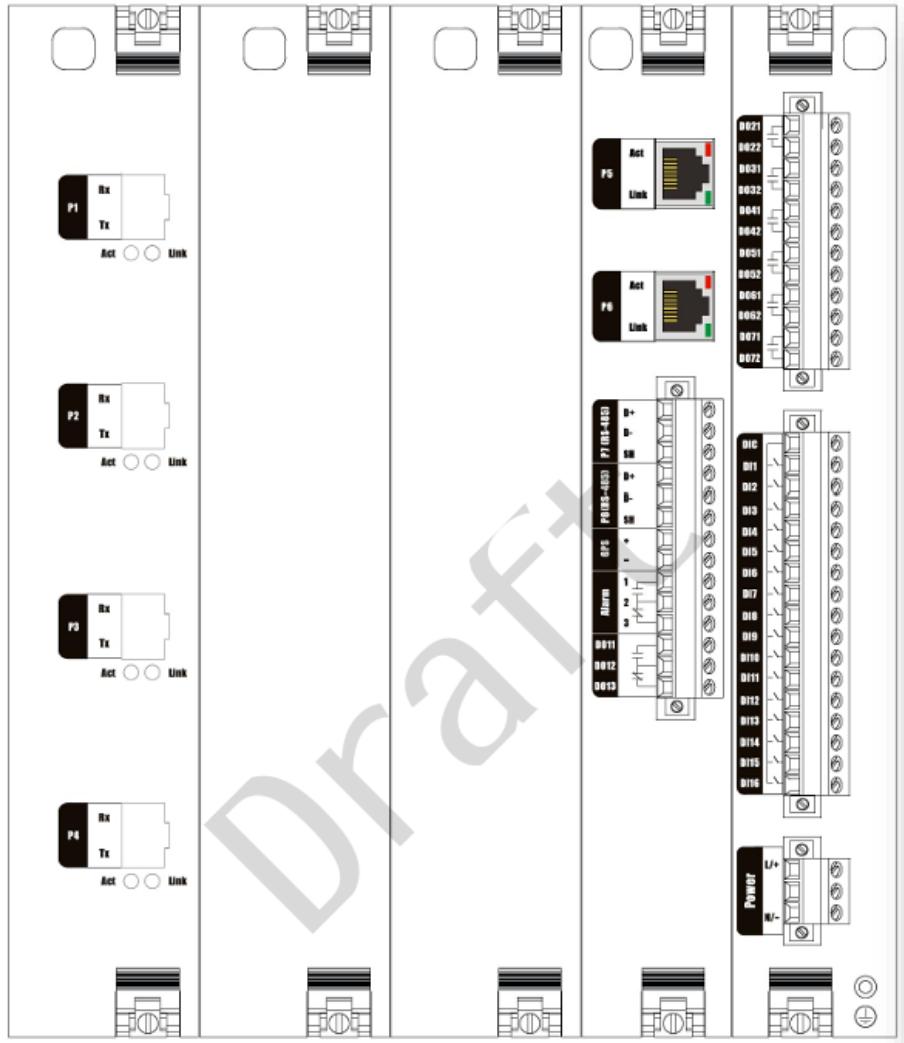
Basic function		Content
recording		samples/cycle Each circuit can record up to 10,000 i The interval between recordings can be s to 1440 minutes
	RMS record	Each circuit can record up to 128 ite
Cyber Security	Cyber Security function	■
IO	digit input (DI)	16 items , internal/external incentiv
	digit output (DO)	8 items (7DO+1Alarm)
LCD	display	7' color LCD screen
	Resolution (pixels)	800×480
communication	Ethernet port	2, 10/100/1000M adaptive
	RS-485 communication port	2
	communicating protocol	Modbus RTU、Modbus TCP、IEC61
Time Synchronization	SNTP	■
	Modbus	■
	GPS	■
	IRIG-B	■
	IEEE 1588	■
Memory	capacity	16GB

parameter	Accuracy and maximum error	resolution ratio
voltage	± 0.1% (relative error)	0.001V
current	± 0.1% (relative error)	0.001A
active power	± 0.2% (relative error)	0.001W
reactive power	± 0.2% (relative error)	0.001var
apparent output	± 0.2% (relative error)	0.001VA
power factor	± 0.2% (relative error)	0.001
frequency	±0.003Hz	0.001Hz
voltage deviation	± 0.1% (absolute error)	0.01%
Frequency deviation	±0.003Hz	0.001Hz
voltage unbalance	± 0.1% (absolute error)	0.01%
current imbalance	± 0.5% (absolute error)	0.01%
harmonics	Class A (IEC 61000-4-7/IEC 61000-4-30)	0.01%
Interharmonics	Class A (IEC 61000-4-7/IEC 61000-4-30)	0.01%
flicker	±5% (relative error)	0.001
voltage fluctuation	± 5% (relative error)	0.01%
sag/swell/interruptions	Voltage: ±0.2%Un, duration: ±1 week	0.01%
Phase angle of fundamental voltage and current	±0.2°	0.1°
phase angle of harmonics voltage current	±5°	0.1°

R(statistical data recorder)	Each group for one circuit record up to 1024 variables The interval time can be set from 0min to 60min
cker recorder	Provides long and short flash records
ss rate statistics	Voltage, frequency and long-term flicker qualification rate statistics
dinary setpoint	256 variables for each circuit
gger alarm	■
onitoring events (1 ms)	1024 events each circuit @ 1ms resolution
vice log (1ms)	1024 events each circuit @ 1ms resolution
f-test of the device	■
ent count	■
DIF	■
veform recording	512 samples/cycle, 256 samples/cycle, 128

PMC-680D

Power quality statistics and evaluation	SDR(statistical	
	Flicker recorder	
	Pass rate statist	
setpoint	Ordinary setpoi	
	Trigger alarm	
SOE	Monitoring eve	
	Device log (1ms	
	Self-test of the	
	event count	
data logging	PQDIF	
waveform	waveform reco	

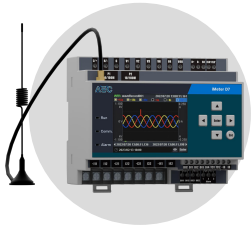


number		
A	P1~P4	MU interface IEC-68150-9-2 message input optical Ethernet interface 1 to 4
D	P5~P6	Ethernet communication port, connected to the upper computer
	P7~P8	RS-485 communication port, connected to the upper computer
	GPS+ / GPS-	GPS time interface, IRIG-B time interface GPS+ is connected to the positive pole and GPS-to the negative pole
	Alarm1/2/3	Alarm output
	DO11/DO12/DO13	DO1 terminal, mutually exclusive output of normally open/closed contacts
Z	DO21/DO22、DO31/DO32 DO41/DO42、DO51/DO52 DO61/DO62、DO71/DO72	DO2~DO7 terminals Always open contact output
	DIC、DI1~DI16	DI terminals are optional for internal and external excitation; DIC is the common terminal
	L/+、N/-	The power supply of the device is positive for DC + and negative for DC-. L is the phase line and N is the neutral line for AC

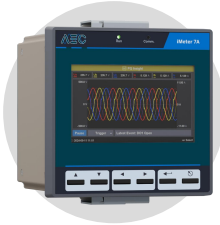
solution ratio
0.001V
0.001A
0.001W
0.001var
0.001VA
0.001
0.001Hz
0.01%
0.001Hz
0.01%
0.01%
0.01%
0.01%
0.001
0.01%
0.01%
0.1°
0.1°

محصولات

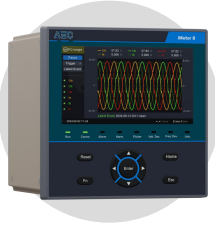
iMeter 5



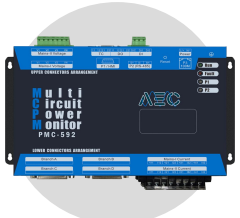
iMeter D7



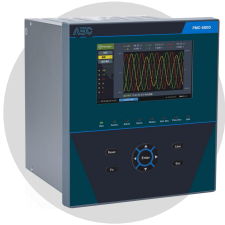
iMeter 7A



iMeter 8



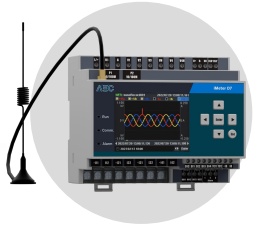
PMC-592



PMC-680D

مقایسه محصولات

iMeter 5

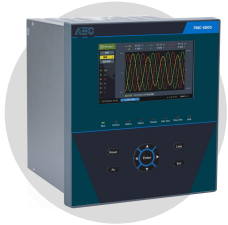


iMeter D7

iMeter 7A

iMeter 8

PMC-592



PMC-680D

مقایسه محصولات ATEC

مدل	نوع دستگاه	فرم‌فکتور / نصب	تمرکز اصلی	کاربردهای تیپیک
i Meter 5	آنالایزر پاورکوالیتی ماژولار	پنلی ۹۶×۹۶ (برش ۹۲×۹۲)	اندازه‌گیری انرژی و پارامترهای PQ(ولتاژ، جریان، هارمونیک، فلیکر، عدم‌تعادل)	تابلوهای توزیع LV/MV، فیدرهای اصلی ساختمان‌های تجاری/صنعتی، مانیتورینگ مصرف و کیفیت توان در یک فیدر/تابلو
i Meter 7D	آنالایزر پیشرفته PQ روی ریل	DIN-Rail، بدنه فشرده ۱۴۴.۸×۱۱۵.۸×۷۵.۶ mm	آنالیز کامل PQهارمونیک تا اینترهارمونیک، فلیکر، ITIC/SEMI F47، موج‌فرم، گزارش EN50160و IEEE 519	پست‌های LV، دیتاسنتر، خطوط بحرانی، جایی که هم PQ کامل می‌خواهیم هم نصب روی ریل داخل تابلو
i Meter 7A	Advanced PQ Analyzer	پنلی DIN 144با نمایشگر رنگی ۵"	آنالیز کامل PQطبق IEC 61000-4-30 Class A، هارمونیک/اینترهارمونیک، فلیکر، رخدادها و موج‌فرم	مانیتورینگ PQدر پست‌ها، صنایع، مانیتورینگ فیدرهای حیاتی؛ وقتی ظاهر پنلی شیک + HMIقوی نیاز است
i Meter 8	Advanced PQ Analyzerپرچم‌دار	پنلی بزرگ ۱۸۲.۴×۱۹۲×۱۹۲mm با LCDرنگی	PQکامل کلاس A، هارمونیک تا مرتبه ۶۳، فلیکر، dips/swell، ترنزینت، تغییرات سریع ولتاژ	پست‌های HV/MV/LV، شبکه‌های هوشمند، خطوط بسیار بحرانی، وقتی + Advanced PQلاگ طولانی مدت برای تحلیل عمیق می‌خواهیم
PMC-592	Multi-Circuit Power Monitor	باکس فلزی فشرده، برای نصب داخل PDU/LVDB، تا ۸۴ شاخه	تمرکز روی چندمداره: دو ورودی اصلی + ده‌ها شاخه، جریان، توان، انرژی، دمند، مقداری PQ (موج‌فرم، THDشاخه‌ها)	دیتاسنتر (PDU، LVDB، Load Center، MCC)، مانیتورینگ چندین خروجی در یک تابلو با هزینه سرانه پایین برای هر خط
PMC-680D	Digital Power Quality Analyzer چندمداره	رک/پنلی برای پست دیجیتال؛ ماژولار، قابل توسعه تا ۴ واحد MU	PQکامل چندمداره: هارمونیک، فلیکر، عدم‌تعادل، dips/swell، ترنزینت، موج‌فرم، رویداد، RMS recorder، PQDIF/COMTRADE	پست‌های دیجیتال (IEC 61850, Merging Unit)، پایش آنلاین PQروی چند باس‌بار/فیدر، پروژه‌های Smart Substationو ارتقای پست‌های قدیمی

مقایسه محصولات ATEC

مدل	نوع دستگاه	فرم‌فکتور / نصب	تمرکز اصلی	کاربردهای تیپیک
i Meter 5	آنالایزر پاورکوالیتی ماژولار	پنلی ۹۶×۹۶ (برش ۹۲×۹۲)	اندازه‌گیری انرژی و پارامترهای PQ(ولتاژ، جریان، هارمونیک، فلیکر، عدم‌تعادل)	تابلوهای توزیع LV/MV، فیدرهای اصلی ساختمان‌های تجاری/صنعتی، مانیتورینگ مصرف و کیفیت توان در یک فیدر/تابلو
i Meter 7D	آنالایزر پیشرفته PQ روی ریل	DIN-Rail، بدنه فشرده ۷۵.۶×۱۱۵.۸×۱۴۴.۸ mm	آنالیز کامل PQهارمونیک تا اینترهارمونیک، فلیکر، ITIC/SEMI F47، موج‌فرم، گزارش EN50160 و IEEE 519	پست‌های LV، دیتاسنتر، خطوط بحرانی، جایی که هم PQ کامل می‌خواهیم هم نصب روی ریل داخل تابلو
i Meter 7A	Advanced PQ Analyzer	پنلی DIN 144با نمایشگر رنگی ۵"	آنالیز کامل PQطبق IEC 61000-4-30 Class A، هارمونیک/اینترهارمونیک، فلیکر، رخدادها و موج‌فرم	مانیتورینگ PQدر پست‌ها، صنایع، مانیتورینگ فیدرهای حیاتی؛ وقتی ظاهر پنلی شیک + HMIقوی نیاز است
i Meter 8	Advanced PQ Analyzerپرچم‌دار	پنلی بزرگ ۱۸۲.۴×۱۹۲×۱۹۲mm با LCDرنگی	PQکامل کلاس A، هارمونیک تا مرتبه ۶۳، فلیکر، dips/swell، ترنزینت، تغییرات سریع ولتاژ	پست‌های HV/MV/LV، شبکه‌های هوشمند، خطوط بسیار بحرانی، وقتی + Advanced PQلاگ طولانی مدت برای تحلیل عمیق می‌خواهیم
PMC-592	Multi-Circuit Power Monitor	باکس فلزی فشرده، برای نصب داخل PDU/LVDB، تا ۸۴ شاخه	تمرکز روی چندمداره: دو ورودی اصلی + ده‌ها شاخه، جریان، توان، انرژی، دمند، مقداری PQ (موج‌فرم، THDشاخه‌ها)	دیتاسنتر (PDU، LVDB، Load Center، MCC)، مانیتورینگ چندین خروجی در یک تابلو با هزینه سرانه پایین برای هر خط
PMC-680D	Digital Power Quality Analyzer چندمداره	رک/پنلی برای پست دیجیتال؛ ماژولار، قابل توسعه تا ۴ واحد MU	PQکامل چندمداره: هارمونیک، فلیکر، عدم‌تعادل، dips/swell، ترنزینت، موج‌فرم، رویداد، RMS recorder، PQDIF/COMTRADE	پست‌های دیجیتال (IEC 61850, Merging Unit)، پایش آنلاین PQروی چند باس‌بار/فیدر، پروژه‌های Smart Substationو ارتقای پست‌های قدیمی

دستگاه های اقتصادی و کوچک

PMC 53-A

PMC 53-A-E

مهم‌ترین ویژگی‌ها:

- دقت انرژی Class 0.2S / Class 0.5S
- گواهی MIDکلاس C (قابل استفاده برای بیلینگ اروپا)
- True RMS ۱۲۸Samples/Cycle (نسخه جدید)
- هارمونیک تا ۶۳ K-Factor + THD
- TDDMulti-Tariff TOU & Demand
- Timestampبا Max/Min Log

کاربردهای اصلی:

- مانیتورینگ انرژی در ساختمان‌های تجاری، اداری و صنایع سبک
- پایش هارمونیک و THDدر تابلوهای LV/MV
- Submeteringچند فیدره
- پروژه‌های با بودجه محدود که دقت بالا و لاگینگ مناسب می‌خواهند
- مناسب برای Energy Audits و مصرف‌سنجی بلندمدت

PMC 53-A

دستگاه های اقتصادی و کوچک

PMC 53-A

PMC 53-A-E

مهم‌ترین ویژگی‌ها:

- دقت انرژی Class 0.2S / 0.5S
- پشتیبانی از Rogowski Coil و SCCT
- نصب سریع، ایمن و ساده روی کابل‌های بزرگ
- ۱۲۸ Samples/Cycle True RMS
- دقت بالا در اندازه‌گیری هارمونیک تا ۶۳

کاربردهای اصلی:

- مانیتورینگ حرفه‌ای انرژی در تابلوهای صنعتی، تجاری و زیرساختی
- پایش کیفیت توان سطح اولیه (هارمونیک، THD، TDD، Unbalance)
- اتاق‌های برق و دیتاسنترها با نیاز به ثبت طولانی‌مدت داده
- سیستم‌های انرژی هوشمند، EMS/BMS با ارتباطات Ethernet
- مکان‌هایی که نصب Rogowski ضروری است:
  - ✓ کابل‌های بسیار قطور–تابلوهایی که فضای CT Standard ندارند
- مانیتورینگ Demand / Peak Load مناسب برای Submetering پیشرفته با نیاز به دقت بالا

PMC 53-A-E

دستگاه های اقتصادی و کوچک

PMC 53-A

PMC 53-A-E

با آرزوی موفقیت ...

شرکت اترک انرژی گستر ارس

www.atrakenergy-aras.ir