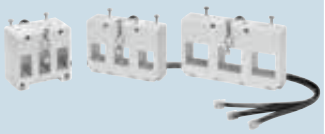
Energy management

	Energy meter / Energy analyzer	Energy meters	
Types	**EM10 DIN / EM11 DIN**	**EM21 72D / 72V**	**EM21 72R**
			
Dimensions HxWxD (mm)	90 x 18 x 67	72 x 72 x 65	72 x 72 x 65
Description	1-DIN module		
Function	1-phase energy meter kWh (EM10) 1-phase energy analyzer (EM11) V_{LN}, A, Hz, W, W_{dmd}, var, PF, kWh, kvarh. TRMS method	3-phase energy analyzer with double mounting capability, panel and DIN rail, W, var, PF, Phase-sequence, VLL, VLN, A TRMS method	3-phase energy analyzer with double mounting capability, panel and DIN rail, W, var, PF, Phase-sequence, VLL, VLN, A TRMS method
Input specifications			
Range code	120 VAC [AV7] 230 VAC [AV8] Ib: 5 A, Imax: 32 AAC; 1-phase	120 / 230 VAC, 400 VAC In: 5 A; Imax: 6 A (72 D) 3-phase by CTV current sensor (72V)	120 / 230 VAC, 400 VAC In: 5 A; Imax: 6 A 3-phase by included current sensor
Accuracy	±0.5% RDG (V, A) (EM11)	±0.5% RDG (V, A)	±0.5% RDG (V) ±1% RDG (A)
Active energy	Class 1 (EN62053-21) +	Class 1 (EN62053-21) Class B (EN50470-3)	Class 2 (EN62053-21) Class A (EN50470-3)
Reactive energy	Class B (EN50470-3) (EM10 / EM11) Class 2 (EN62053-23) (EM11)	Class 2 (EN62053-23)	
Display	4 DGT (inst. variables) (EM11) 5+1 DGT (energies), LCD	3 DGT (inst. variables) 6+1 DGT (energies), LCD	3 DGT (inst. variables) 6+1 DGT (energies), LCD
Output specifications			
Out 1 (Pulse)	1-open collector	1 static opto-mosfet	1 static opto-mosfet
Out 1 (Alarm)	1-relay (EM11)	None	None
Out 2 (Serial communication)		RS485 (2-wire, Modbus) M-BUS by means of VMU-B	RS485 (2-wire, Modbus) M-BUS by means of VMU-B
Inputs		None	None
General specifications			
Power supply	Self power supply [X]	Self power supply	Self power supply
Approvals / Marks	CE - MID certification	CE	CE
References			
		For ordering key details, please refer to www.productselection.net	

CARLO GAVAZZI

Energy management

	Energy meter Energy analyzer	Quick-fit dual energy meter	3-phase current transformer
Types	**EM210**	**EM270**	**TCD**
			
Dimensions HxWxD (mm)	72 x 72 x 65	72 x 72 x 65	TCD1: 75x72x66,8 TCD2: 105x72x50 TCD3: 135x78x50
Description	3-phase energy analyzer with double mounting capability, panel and DIN rail.	Quick fit energy meter with daisy chaining of voltage and serial connections and fast RJ connection of TCD 3-phase current transformers. Managing of two 3-phase or six 1-phase loads	3-phase current transformers for EM270 quick fit meter. Connection to the meter by means of RJ11 connector (included).
Function	4-DIN module and 72x72 panel mounting; kWh (imported and exported), W, var, PF, Phase-sequence, VLL, VLN, A; TRMS method	4-DIN module and 72x72 panel mounting; kWh and W per load, var, VLL, VLN, A; TRMS method; Virtual sum of the two 3-phase or six 1-phase loads	Suitable to be installed downstream the curcuit breakers (same width). Automatic setting of the CT ratio in the meter.
Input specifications			
Range	120 / 230 VAC, 400 VAC In: 5 A; Imax: 6 A	120 / 230 VAC, 400 VAC In: from 160 to 630 A by TCD	TCD1: 160 A TCD2: 250 A TCD3: 630 A
Accuracy	±0.5% RDG (V, A)	±0.5% RDG (V, A)	Equivalent to class 0.5 (EN60044-1)
Active energy	Class 1 (EN62053-21) Class B (EN50470-3)	Equivalent to Class 1 (EN62053-21)	-
Reactive energy	Class 2 (EN62053-23)	Equivalent to Class 2 (EN62053-23)	-
Display	3 DGT (inst. variables) 6+1 DGT (energies), LCD	3 DGT (inst. variables) 6+1 DGT (energies), LCD	-
Output specifications			
Out 1 (Pulse)	1 static opto-mosfet	2 static opto-mosfet	-
Out 1 (Alarm)	None	None	-
Out 2 (Serial communication)	RS485 (2-wire, Modbus) M-BUS by means of VMU-B	RS485 (2-wire, Modbus)	-
Inputs	None	None	-
General specifications			
Power supply	Self power supply	Self power supply	n.a.
Approvals / Marks	CE, cULus, MID	CE	CE
References			
	For ordering key details, please refer to www.productselection.net		

Energy management

	Multifunction meter	Energy meter	Energy analyzer
Types	**WM10 DIN**	**EM23 DIN**	**EM24 DIN**
			
Dimensions HxWxD (mm)	90 x 71 x 64.5	90 x 71 x 64.5	90 x 71 x 65
Description			4 DIN modules
Function	3-phase multifunction meter W, var, PF, Hz, A, VLN, VLL TRMS method	3-phase energy analyzer W, var, A, kWh, kvarh TRMS method	3-phase energy analyzer Sys: VLL, VLN, , var, VA, Wdmd, W, VAdmd, Hz, kWh, kvarh, hour counter, gas and water Max: Admd, Wdmd, VAdmd. Single-phase: VLL, VLN, A, W, var, VA, PF, Admd, kWh, kvarh. TRMS method
Input specifications			
Range code	400 VLLAC Ib: 10 A; Imax 65 A 3-phase	400 VLLAC Ib: 10 A; Imax 65 A 3-phase	120 / 208 VL-L [AV6]; 400 VL-L [AV5] In: 1 / 5 A, Imax: 10 AAC; 120 / 208 VL-L [AV0]; 230 VL-L [AV2] 400 VL-L [AV9] Ib: 10 A, Imax: 64 AAC; 3-phase
Accuracy			±0.5% RDG (V, A)
Active energy	Class 1 (EN62053-21) +	Class 1 (EN62053-21) +	Class 1 (EN62053-21) +
Reactive energy	Class B (EN50470-3) Class 2 (EN62053-23)	Class B (EN50470-3) Class 2 (EN62053-23)	Class B (EN50470-3) Class 2 (EN62053-23)
Display	3 x 3 DGT (inst. variables)	3 x 3 DGT (inst. variables) 6+1 DGT (energies) LCD	3x4 DGT (inst. variables) 8 DGT (energies), LCD
Output specifications			
Out 1 (Pulse)	None	1-open collector	2-open collector / relay
Out 1 (Alarm)	None	None	2-relay / open collector
Out 2 (Serial communication)	None	None	RS485 (2-wire) / M-BUS
Inputs	None	None	3 digital input
General specifications			
Power supply	Self power supply	Self power supply	Self power supply [X]. Auxiliary power supply: 18 to 60 VAC / DC [L], 115 / 230 VAC [D], according to the model
Approvals / Marks	CE	CE - MID certification	CE - MID certification
References			
	For ordering key details, please refer to www.productselection.net		

CARLO GAVAZZI

Energy management

	Energy meters		Power analyzer
Types	**EM3-DIN**	**EM4-DIN**	**WM22 DIN**
			
Dimensions HxWxD (mm)	90 x 162.5 x 63	90 x 162.5 x 63	90 x 162.5 x 63
Description	MODULAR	MODULAR	MODULAR
Function	2-phase, 3-phase unbalanced 3 or 4 wires energy meter. Direct connection up to 100 A. 6+1 digits electromechanical display	3-phase energy meter. Direct connection up to 100 A. Back-lighted LCD display. 31 / 2 digits istantaneous variables read out, 8+ 7½ dgt energy read out. Measurement of system and phase variables, energy by timeperiods, m3 H20 and m3 GAS	3-phase power analyzer. Direct connection up to 100 A. Back-lighted LCD display. 4 x 31 / 2 digits istantaneous variables read out, 7½ digits energy read out. Measurement of system and phase variables. Measurement of THD
Input specifications			
Range code	208 V_{L-L} [AV8], 220 V_{L-L} [AV2], 400 V_{L-L} [AV9], 660 V_{L-L} [AV3] / 20(00) AAC. 3-phase unbalanced load [3]	100 V_{L-L} [AV6], 208 V_{L-L} [AV4], 400 V_{L-L} [AV5], 660 V_{L-L} [AV7] 5(10) AAC; 208 V_{L-L} [AV0] [AV8 self p.s.], 220 V_{L-L} [AV2], 400 V_{L-L} [AV1] [AV9 self p.s.], 660 V_{L-L} [AV3] 20(100) AAC	100 V_{L-L} [AV6], 208 V_{L-L} [AV4], 400 V_{L-L} [AV5],660 V_{L-L} [AV7] 5(10) AAC; 208 V_{L-L} [AV0], 400 V_{L-L} [AV1], 220 V_{L-L} [AV2] 660 V_{L-L} [AV3] 20(100) AAC
Accuracy			±0.5% RDG (A,V)
Active energy	Class 2: (EN61036)	Class 1: (EN61036)	Class 1: (EN61036)
Reactive energy	Class 3: (EN61268)	Class 2: (EN61268)	Class 2: (EN61268)
Display	6+1 digits (electromechanical)	3½-digit backlighted LCD (8-digit for energy)	1000 samples /s @ 50Hz
Output specifications			
Out 1 (Pulse)	Dual pulse outputs (NPN transistor) [O]	Dual pulse output module (NPN trans.) [O]	Dual pulse output module (NPN trans.)[O]
Out 1 (Alarm)		1 alarm output module [O] (NPN trans.) 30 VDC/100 mA Max	1 alarm + 1 pulse output module [O] (NPN tr) 30 VDC/100 mA Max
Out 2 (Serial communication)	None	RS422/485 serial port [SO]	1 analogue output : 0 to 20 mADC [A1], or 0 to 10 VDC [V1]
Inputs		2 digital inputs module [D]	RS422/485 serial port [SO]
General specifications			
Power supply	Self power supply [X]: 400 VAC, 208 VAC V_{L-L}, Auxiliary power supply: 230 VAC [D], 115 VAC [C]	Self power supply: [X] 400 VAC, 208 VAC, 220 VAC V_{L-L}, Auxiliary power supply: 230[D], 115[C], 48[B], 24 [A]VAC, 18 to 60 VDC [4], 77 to 143 VDC [5]	Self power supply: [X] 400 VAC 208 VAC V_{L-L}, Auxiliary power supply: 230[D], 115[C], 48[B], 24 [A]VAC, 18 to 60 [4], 77 to 143 VDC [5]
Approvals / Marks	CE	CE	CE
References			
	For ordering key details, please refer to www.productselection.net		

Energy management

	Multifunction meters		Power analyzer
Types	**WM12-DIN**	**WM14 DIN**	**WM14 Advanced**
			
Dimensions HxWxD (mm)	90 x 107.8 x 64.5	90 x 107.8 x 64.5	90 x 107.8 x 64.5
Function	3-phase multifunction power indicator. System: V_{LL}, V_{LN}, An, VA, VA_{dmd}, W_{dmd}, W, var, PF, Hz. Max: A, W_{dmd}. Single phase: V_{LL}, V_{LN}, A, VA, W, var, PF	3-phase power analyzer. System: V_{LL}, An, PF, W, var, VA, W_{dmd}, VA_{dmd}, Hz, kWh, kvarh, hour meter; Max: A, A_{dmd}, W_{dmd}; Single phase: V_{LL}, V_{LN}, A, A_{dmd}, PF, W, var, VA	3-phase power analyzer. System: V_{LL}, VLN, An, PF, W, var, VA, W_{dmd}, VA_{dmd}, Hz, kWh, kvarh, hour meter; Max: W_{dmd}, VA_{dmd}. Single phase: V_{LL}, V_{LN}, A, A_{dmd}, PF, W, var, VA, THD (A,V); Max: V_{LN}, A, A_{dmd}, W. Min: V_{LN}, A, PF
Input specifications			
Range code	400 / 660 V_{L-L} / 5(6) AAC [AV5] 100 / 208 V_{L-L} / 5(6) AAC [AV6]	400 / 660 V_{L-L} / 5(6) AAC [AV5] 100 / 208 V_{L-L} / 5(6) AAC [AV6]	400 / 660 V_{L-L} / 5(6) AAC [AV5], 100 / 208 V_{L-L} / 5(6) AAC [AV6]
Accuracy	±0.5% FS (V, A)	0.5 FS (V, A), 1 (kWh), 2 (kvarh)	0.5 FS (V, A), 1 (kWh), 2 (kvarh)
Display	3x3-digit LED	3x3-digit, LED 8+1-digit (energies)	3x3-digit, LED 8+-digit (energies)
Display refresh time	1.5 times/s	1.5 times/s	5 times/s (2 times/s FFT on)
Output specifications			
Serial communication output	RS485 port (on request) [S]	RS485 port (on request) [S]	RS485 port (on request) [S]
Alarm output			2 (relays) with PLC-type control function on 16 variables (AND / OR) [R]
Pulse output			2 (open collector) [O]
General specifications			
Power supply	24 VAC [A], 48 VAC [B], 115 VAC [C], 230 VAC [D], 18 to 60 VDC [3]	24 VAC [A] 48 VAC [B] 115 VAC [C] 230 VAC [D] 18 to 60 VDC [3]	18 to 60 VAC / DC [L], 90 to 260 VAC / DC [H]
Approvals / Marks	CE - cURus	CE - cURus - cCSAus	CE - cURus
Note			Advanced version [AX]
References			
	For ordering key details, please refer to www.productselection.net		

CARLO GAVAZZI

Energy management

	Multifunction meter	Power analyzers	
Types	**WM12 96**	**WM14 96 Basic/Profibus**	**WM14 96 Advanced**
			
Dimensions HxWxD (mm)	96 x 96 x 46	96 x 96 x 46	96 x 96 x 46
Function	3-phase multifunction indicator. System: V_{LL}, V_{LN}, A, An, VA, VA_{dmd}, W, W_{dmd}, var, PF, Hz. Max: A, W_{dmd} Single phase: V_{LL}, V_{LN}, A, VA, W, var, PF	3-phase power analyzer. System: V_{LL}, An, PF, W, var, VA, W_{dmd}, VA_{dmd}, Hz, kWh, kvarh, hour meter; Max: A, A_{dmd}, W_{dmd}; Single phase: V_{LL}, V_{LN}, A, A_{dmd}, PF, W, var, VA	3-phase power analyzer. System: V_{LL}, V_{LN}, An, PF, W, var, VA, W_{dmd}, VA_{dmd}, Hz, kWh, kvarh, hour meter; Max: W_{dmd}, VA_{dmd}. Single phase: V_{LL}, V_{LN}, A, A_{dmd}, PF, W, var, VA, THD (A,V); Max: V_{LN}, A, A_{dmd}, W. Min: V_{LN}, A, PF
Input specifications			
Range code	400 / 660 V_{L-L} / 5(6) AAC [AV5], 100 / 208 V_{L-L} / 5(6) AAC [AV6]	400 /660 V_{L-L} / 5(6) AAC [AV5], 100 /208 V_{L-L} / 5(6) AAC [AV6]	400 /660 V_{L-L} / 5(6) AAC [AV5], 100 /208 V_{L-L} / 5(6) AAC [AV6]
Accuracy	0.5 FS (V, A)	0.5 FS (V, A) 1 (kWh) 2 (kvarh)	0.5 FS (V, A), 1 (kWh), 2 (kvarh)
Display	3x3-digit, LED	3x3-digit, LED 8+1-digit (energies)	3x3-digit, LED 8+1-digit (energies)
Display refresh time	1.5 times/s	1.5 times/s	5 times/s (2 times/ FFT on)
Output specifications			
Serial communication output	RS 485 port (on request) [S]	RS 485 port (on request) [S] Profibus DP port [DG] (on request)	RS422/485 (on request) [S1]
Alarm output			2 (relays) with PLC-type control function on 16 variables (AND / OR) [R]
Pulse output			2 (open collector) [O]
General specifications			
Power supply	24 VAC [A], 48 VAC [B], 115 VAC [C], 230 VAC [D], 18 to 60 VDC [3]	24 VAC [A], 48 VAC [B], 115 VAC [C], 230 VAC [D], 18 to 60 VDC [3], 90 to 260 AC / DC [H] DG version only	18 to 60 VAC / DC [L], 90 to 260 VAC / DC [H]
Approvals/Marks	CE - cURus - cCSAus	CE - cURus (no DG version)	CE - cURus
			Advanced version [AX]
References			
		For ordering key details, please refer to www.productselection.net	

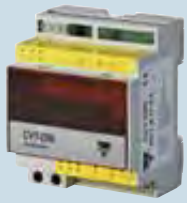
Energy management

	Energy analyzer	Modular power quality analyzers	
Types	**EM26 96**	**WM30 96**	**WM40 96**
			
Dimensions HxWxD (mm)	96 x 96 x 61	96 x 96 x 50	96 x 96 x 50
Description		MODULAR	MODULAR
Function	3-phase energy analyzer Sys: V_{LL}, V_{LN}, An, var, VA, W, W_{dmd}, VA_{dmd}, VA, Hz, %THD-V, %THD-A, kWh, kvarh, hour counter, gas and water Max: A_{dmd}, W_{dmd}, VA_{dmd}. Single-phase: V_{LL}, V_{LN}, A, W, var, VA, PF, A_{dmd}. kWh, kvarh; TRMS method	3-phase power quality analyzer System: V_{LN}, V_L , VA, W, var, PF, Hz, THD total/partial kWh and kvarh Single phase: V_{LN}, V_{LL}, VA, AL, An, W, var, PF, THD; Phase-sequence-asymmetry loss	3-phase power quality analyzer System: V_{LN}, V_{LL}, VA, W, var, PF, Hz, THD. Total/partial kWh and kvarh (multi-tariff), K-factor Single phase: V_{LN}, V_{LL}, VA, AL An (calculated or measured),W, var, PF, THD, TDD; Phasesequence-asymmetry-loss Load profile, event stamping, data logger, utility and hour counters
Input specifications			
Range code	120 / 208 V_{L-L} [AV6], 400 / 660 V_{L-L} [AV5] In: 1 / 5A, Imax: 10AAC 3-phase unbal. load	400 / 690 V_{LL} AC1(2)A [AV4] 400 / 690 V_{LL} AC5(6)A [AV5] 100 / 208 V_{LL} AC5(6)A [AV6] 100 / 208 V_{LL} AC1(2)A [AV7]	400 / 690 V_{LL} AC1(2)A [AV4] 400 / 690 V_{LL} AC5(6)A [AV5] 100 / 208 V_{LL} AC5(6)A [AV6] 100 / 208 V_{LL} AC1(2)A [AV7]
Accuracy	±0.5% RDG (V, A) 1 (kWh), 2 (kvarh)	±0.2% RDG (V, A) C (kWh), 2 (kvarh)	±0.2% RDG (V, A) Class C (kWh), EN50470-3 Class 2 (kvarh), EN62053-23
Display	3x4-digit (inst. variables) 8-digit (energies) LCD	4x4-digit backligh. LCD 9+1-digit (energies)	4x4-digit backligh. LCD 9+1-digit (energies)
Display refresh time	1.5 times/s	≤ 100 ms	≤ 100 ms
Output specifications			
Serial communication output	RS485 (2-wire) [S1]	Modbus RS485/232 port + RTC [S1] , BACnet SMTP [B3]	Modbus RS485/232 port + RTC [S1], BACnet SMTP [B3] Optical port (ANSI type 2)
Internet/Ethernet port		Modbus TCP Ethernet port [E2], BACNet-IP [B1] , Ethernet/IP [E6]	Modbus TCP Ethernet port [E2], BACNet-IP [B1] , Ethernet/IP [E6]
Alarm output	2-relay [R2] / open collector [O3]	Up to 4 freely configuration virtual alarms	Up to 16 freely configuration virtual alarms
Pulse output	3-open collector [O3] / relay [B2]	Up to 2 digital output modules	Up to 8 digital outputs
Digital input	3 digital inputs [I3]		Up to 6 digital inputs
Analogue output		Up to 2 analogue output modules	Up to 4 analogue outputs
General specifications			
Power supply	18 to 60 VAC / DC [L] 90 to 260 VAC / DC [H]	18 to 60 VAC / DC [L] 90 to 260 VAC / DC [H]	18 to 60 VAC / DC [L] 90 to 260 VAC / DC [H]
Approvals / Marks	CE - cULus (only H)	CE - cULus “Listed”	CE - cULus “Listed”
References			
	For ordering key details, please refer to www.productselection.net		

Energy management

	Modular power quality analyzer	Modular power quality analyzer/transducers	
Types	**WM3 96**	**WM5 96**	**PQT H**
			
Dimensions HxWxD (mm)	96 x 96 x 124	96 x 96 x 124	90 x 90 x 140
Description	MODULAR	MODULAR	MODULAR
Function	3-phase power quality analyzer System: V_{LN}, V_{LL}, An, VA, VA_{dmd}, W, W_{dmd}, var, PF, Hz, THD, total/partial kWh, kvarh (4 tariff) Single phase: V_{LN}, V_{LL}, A, W, var, PF, THD	Smart power quality analyzer. Sys:V_{LN}, V_{LL}, An, W, var, VA, PF, Hz, kWh, kvarh, Single-phase: V_{LN}, V_{LL}, A, W, var, VA, PF, THD-V, THD-A. THD and single H up to the 63rd H (V, A)	Smart power quality transducer. Sys:V_{LN}, V_{LL}, An, W, var, VA, PF, Hz, kWh, kvarh, Single-phase: V_{LN}, V_{LL}, A, W, var, VA, PF, THD-V, THD-A. THD and single H up to the 63rd H (V, A)
Input specifications			
Range code	433 VAC-1/5 AAC [AV5] 690 VAC-1/5 AAC [AV7]	120/208VL-L [AV6], 400/690VL-L [AV5] In: 1/5A, Imax: 10AAC	120/208VL-L [AV6], 400/690VL-L [AV5] In: 1/5A, Imax: 10AAC
Accuracy	±0.5% RDG (V, A)	±0.2% RDG (V, A)	±0.2% RDG (V, A)
Active energy	1 (kWh)	Class 0.5 (EN62053-22)	Class 0.5 (EN62053-22)
Reactive energy	2 (kvarh)	Class 2 (EN62053-23)	Class 2 (EN62053-23)
Display	4x4-digit backligh. LCD 4x9-digit (energies)	WM5: 4x4-digit backlighted LCD WM5: 4x9-digit (energy)	
Sampling Rate	10 times /s	10 times /s	10 times /s
Output specifications			
Serial communication output	RS 422 / 485 port RS232 port + RTC	RS422 / 485, RS232+RTC modules. Optical port (ANSI C12.18/Modbus)	RS422 / 485, RS232+RTC modules. Optical port (ANSI C12.18/Modbus)
Internet / Ethernet port		Internet / Ethernet comm. with WEB server capability [E2]	Internet / Ethernet comm. with WEB server capability [E2]
Alarm output	Up to 2 single / dual open collector or relay modules	Up to 16, by: single / dual or quadruple open collector or relay modules	Up to 16, by: single / dual or quadruple open collector or relay modules
Pulse output	Up to 2 single / dual open collector or relay modules	Up to 16, by: single / dual or quadruple open collector or relay modules	Up to 16, by: single / dual or quadruple open collector or relay modules
Digital input	Up to 3 digital inputs	Up to 12 (W_{dmd}, VA_{dmd} sync.; tariff, contact ststus reading)	Up to 12 (W_{dmd}, VA_{dmd} sync.; tariff, contact ststus reading)
Analogue output	Up to 2 single / dual analog output modules	Up to 8, by single / dual (mA/V) output modules	Up to 8, by single / dual (mA/V) output modules
General specifications			
Power supply	18 to 60 VAC / DC [L] 90 to 260 VAC / DC [H]	18 to 60 VAC / DC [L], 90 to 260 VAC / DC [H]	18 to 60 VAC / DC [L], 90 to 260 VAC / DC [H]
Approvals / Marks	CE - cURus - CSA	CE - cURus - CSA	CE - cURus - CSA
References			
	For ordering key details, please refer to www.productselection.net		

Energy management

	Compact power transducers		Transducer
Types	**CPT DIN**	**CPT DIN Advanced**	**CVT DIN**
			
Dimensions HxWxD (mm)	45 x 83.5 x 98.5	45 x 83.5 x 98.5	89 x 71.5 x 58.5
Description	3-phase compact power transducer	3-phase compact power transducer	Single phase transducer
Function	4-digit data format instantaneous variable, 8+1-digit format energy variables, 5+2-digit data format hours. TRMS method. Sys: V_{LL}, An, PF, W, var, VA, W_{dmd}, VA_{dmd}, Hz, kWh, kvarh, hour meter; Max: W_{dmd}; Single-ph: V_{LL}, V_{LN}, A, A_{dmd}, PF, W, var, VA	4-digit data format instantaneous variable, 8+1-digit format energies, 5+2-digit format hours. TRMS method. Sys: V_{LL}, V_{LN}, An, PF, W, var, VA, W_{dmd}, VA_{dmd}, Hz, kWh, kvarh, hour; Max: W_{dmd}, VA_{dmd}. Sing. ph: V_{LL}, V_{LN}, A, A_{dmd}, PF, W, var, VA, THD, (A,V); Max: V_{LN}, A, A_{dmd}, W. Min: V_{LN},A, PF	1-phase AC, DC. Measurements V, A, Hz
Input specifications			
Range code	120 / 208VAC [AV6], 400 / 690VAC [AV5], 1AAC and 5AAC	120 / 208VAC [AV6], 400 / 690VAC [AV5], 1AAC and 5AAC	1 A / 100 VAC [AV1], 60 mVDC / 10 VDC [AV2], 5 A / 100 VAC [AV4], 5 A / 500 VAC [AV5], 200VDC / 1ADC [AV6], 45 to 55Hz [F1], 55 to 65Hz [F2], 350 to 450Hz [F3]
Accuracy	±0.5% RDG (A,V)	±0.5% RDG (A,V)	0.5% FS
Active energy	kWh: class 1	kWh: class 1 (EN62053-21)	
Reactive energy	kvarh: class 2	kvarh: class 2 (EN62053-23)	
Sampling Rate	1.5 times/s	1.5 times/s	
Output specifications			
Serial communication	RS422/485 [S1], RS232 [S2]	RS422/485 [S1], RS232 [S2]	
Alarm output		2 (relays) with PLC-type control function on 16 variables (AND / OR) [R2]	
Pulse output		2 (open collector) [O2]	
Analogue output		Up to 3: 20 mA [A1-3], 10 VDC [V1-3]	0 to 20 mA [1], 4 to 20 mA [2], 0 to 10 V [3], 0 to ±1 V [4]
General specifications			
Power supply	18 to 60 VAC / DC [L], 90 to 260 VAC / DC [H]	18 to 60 VAC / DC [L], 90 to 260 VAC / DC [H]	24 VAC [A], 48 VAC [B], 115 VAC [C], 230 VAC [D]
Approvals / Marks	CE - cURus - CSA	CE - cURus - CSA	CE
Note	Basic version [BX]	Advanced version [AX]	
References			
		For ordering key details, please refer to www.productselection.net	

Energy management

DC energy analyzers

Types	VMU-E	VMU-X
		
Dimensions	1-DIN module	1-DIN module
Description	DC energy analyzer: V, A, W, kWh	Power supply module for VMU-E unit
Input specifications		
Range code	400 VDC 20 A [AV00] (up 1000 A with external shunt) 400 VDC 1000A [AV10] (by 10 V current sensor)	
Accuracy	±0.5% RDG (V, A)	
Energy	Class 1	
Display	6 DGT, LCD, h 7mm	
Output specifications		
Out 1 (Pulse)		1 opto-mosfet
Out 1 (Alarm)		1 opto-mosfet
Serial communication		RS485
General specifications		
Power supply	Self power supply through VMU-X unit [X]	38 to 265 VAC/DC [X]
Approvals / Marks	CE	CE
References		
	For ordering key details, please refer to www.productselection.net	