

Beverley Adams  
PRODUCT DEVELOPMENT MANAGER

T A Adlington  
MANUFACTURING SUPPORT CONTROLLER

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ISSUE G G G

## AS230 Single Phase Electronic Meter

## TECHNICAL SPECIFICATION

## SINGLE PHASE (AS230) MODEL CODE

V <sub>ref</sub>	I <sub>tr</sub>	I <sub>b</sub> / I <sub>ref</sub>	I <sub>max</sub>	MODEL																
				TYPE (nameplate)																
				example: S L 1 A B N B B N N N N B B - A N																
<b>PRODUCT/TERMINATION</b>																				
Single Phase, BS terminal arrangement (L-N-N-L), Multi Rate with Load Profile				S	L															
Single Phase, DIN terminal arrangement (L-L-N-N), Multi Rate with Load Profile				S	N															
<b>SERVICE TYPE</b>																				
1-phase 2-wire					1															
<b>CURRENT RANGE</b>																				
Direct Connected 20A – * (* is any multiple of I <sub>b</sub> up to 100A maximum - see note 1)					A															
Direct Connected 10A – * (* is any multiple of I <sub>b</sub> up to 100A maximum - see note 1)					B															
Direct Connected 5A – * (* is any multiple of I <sub>b</sub> up to 100A maximum - see note 1)					C															
<b>VOLTAGE/ ACCURACY CLASS</b>																				
220 – 240V 50 Hz Cl.1 kWh, Cl.2 kvarh (IEC 62053-21, 23 see note 2) Cl.B kWh,(EN 50470-3)					B															
220 – 240V 50 Hz Cl.2 kWh, Cl.3 kvarh (IEC 62053-21, 23 see note 2) Cl.A kWh,(EN 50470-3)					C															
<b>CONTACTOR</b>																				
No contactor					N															
With contactor					B															
<b>LCD/BACKLIGHT</b>																				
"English" LCD option - no kvarh LED, no backlight					B															
"English" LCD option - with kvarh LED, no backlight					C															
"English" LCD option - no kvarh LED, with backlight					D															
"Chevrons" LCD option - no kvarh LED, no backlight					F															
"Chevrons" LCD option - with kvarh LED, no backlight					G															
"Chevrons" LCD option - no kvarh LED, with backlight					H															
<b>BATTERY OPTIONS</b>																				
Real Time Clock battery support					B															
<b>AUXILIARY OUTPUT</b>																				
No SO or relay output					N															
SO output (as kWh LED)					B															
SO output (configurable)					C															
100mA/230V relay output (configurable)					F															
<b>MAIN COVER TAMPER</b>																				
No main cover tamper					N															
With main cover tamper					B															
<b>TERMINAL COVER TAMPER</b>																				
No terminal cover tamper					N															
With terminal cover tamper					B															
<b>MAGNETIC FIELD SENSOR</b>																				
No magnetic field sensor					N															
With magnetic Field sensor					B															
<b>OPERATIONAL MODES</b>																				
Import kWh only (plus reverse active energy)					B															
Import kWh, import (Q1 + Q2) kvarh plus reverse active energy					C															
Import/Export kWh					D															
Import/Export kWh, import (Q1 + Q2) and export (Q3 + Q4) kvarh					F															
Import/Export kWh, import (Q1 + Q2) and export (Q3 + Q4) kvarh and kVAh.					G															
<b>OTHER OPTIONS</b>																				
Short Terminal Cover					B															
Extended Terminal cover					C															
Extended Terminal cover with cut-out					D															
<b>VERSION</b>																				
Original																		-	A	
<b>REVISION SUFFIX</b>																				
Firmware 2-01331-F (selected customers only)																				F
Firmware 2-01331-J																				J

**Note 1:- Current Rating**

**IEC62052-11** (to which IEC62053-21 refers) defines **only** Basic and Maximum currents as follows:

Basic Current ( $I_b$ )

Standard values: 5, 10, 15, 20, 30, 40, 50A

Exceptional values: 80A

and states that Maximum current ( $I_{max}$ ) is preferably an integral multiple of  $I_b$ :

**BS and DIN** meters shall preferably be an integral multiple of  $I_b$  **up to a maximum of 100A**  
(e.g. 20 x a basic current of 5A)

**EN 50470-1 (MID)** defines basic values of  $I_{tr}$  from which  $I_{min}$ ,  $I_{ref}$  and  $I_{max}$  can be derived.

Basic values of  $I_{tr}$

**Direct Connected** 0.5A, 1A, 1.5A, 2A

$I_{min}$ ,  $I_{ref}$  and  $I_{max}$  have to be chosen so that the following relationships are met

**Direct Connected, Class A**  $I_{min} \leq 0.5 \times I_{tr}$   $I_{ref} = 10 \times I_{tr}$   $I_{max} \geq 50 \times I_{tr}$

**Direct Connected, Class B**  $I_{min} \leq 0.5 \times I_{tr}$   $I_{ref} = 10 \times I_{tr}$   $I_{max} \geq 50 \times I_{tr}$

**Note 2:- Voltage Rating**

**IEC62052-11** (to which IEC62053-21 refers) defines the following relevant reference voltages:

Ref Voltage ( $U_n$ ) for **Direct connected**

Std values 120, **230V**

Exceptional values 100, 127, 200, **220, 240V**

Meters with reference currents and voltages other than the above values CANNOT be provided when the nameplate shows the IEC/EN Standard Number.

If a valid requirement exists for meters with reference values within the acceptable ranges, but not listed above, specific arrangements to provide nameplates not showing the IEC/EN standard must be made, (only the values shown in bold are within the acceptable ranges).

**EN 50470-1 (MID)** defines for reference voltages, the following standard and exceptional values

Ref Voltage for **Direct connected**

Std values 230/400V [*that is, for single phase, 230V*]

Exceptional values 220/380V, 240/415V [*that is, for single phase, 220 or 240V*]

Therefore meters showing reference voltages other than 220, 230 or 240V are not MID approve types.

**Note 3:- Pulse Output Values**

For all meter ratings the normal pulse value for the Test LED will be 2000 pulses / kWh (kvarh).

Exceptional pulse value for the test LED will be 1000 pulses/kWh (kvarh)

The pulse value for the SO pulsing output will either be the same as the kWh test LED pulse rating, or will be chosen when the customer's requirements are entered into the Configuration Tool software, from the choice of values offered in the software.