	POWER METER TECHNICS (PTY) LTD		PLE12D-L
	POWER LINK PLE12D-L		REL 1.0
	SOLID-STATE SINGLE-PHASE ELECTRICITY METER		SEP 2004

DESCRIPTION

The POWER LINK PLE12D-L static single-phase electricity meter is the latest development in the range of electronic revenue metering. The meter has been designed to meet the modern standards of electrical utilities.



High metering security against illegal abstraction and fraud is one of the main features of the PLE12D-L. Protection from mechanical, magnetic, or electrical interference is built into the product by careful circuit design and layout. As an anti-fraud feature, the meter runs forward regardless of the energy direction. The meter will thus register correctly even if it is reverse connected, making it the ideal choice for metering end consumers in the modern energy market.

APPLICATION

The PLE12D-L meter enables electricity supply-authorities to install the meter with total confidence at single-phase end consumers. The high accuracy, wide operating range, and very low starting current makes it the ideal choice.

The meter is also a secure investment where fraud is suspected, and is also an excellent replacement for single-phase electromechanical meters where the terminal configuration and size are standard.

The PLE12D-L excels in applications where high-density automatic meter reading is required as it is fitted with both an easy to read register and an electronic pulse output.

OPERATION

In order to ensure ultra high reliability, the number of electronic components in the PLE12D-L have been kept to an absolute minimum. This high level of integration has been achieved by making use of a sophisticated mixed signal analogue and digital integrated circuit, which performs power calculations across a dynamic power range of 1000:1, to an overall accuracy of better than 1%.

CONSTRUCTION

The state of the art design and construction guarantee a long and service free life. Using modern application specific integrated circuitry and surface mount printed circuit board technology ensures the high stability and accuracy of the metrology.

Case and Cover

The base, terminal block and terminal cover are made of black phenolic resin (bakelite). This material ensures high mechanical rigidity and is highly resistant to extreme environmental conditions. The excellent insulating properties of bakelite also protect against electric shock hazards, and fire.

The meter cover is manufactured from a transparent polycarbonate material. The meter is well protected against tropical conditions by means of a gasket seal located between the base and terminal cover. The cover is fastened to the base by a single sealable screw.

Terminals

The terminal arrangement complies with Bs5685. The terminals are made of high quality brass with two screws for each connection point.

An extended terminal cover is available as an option in either opaque or transparent polycarbonate.

Register

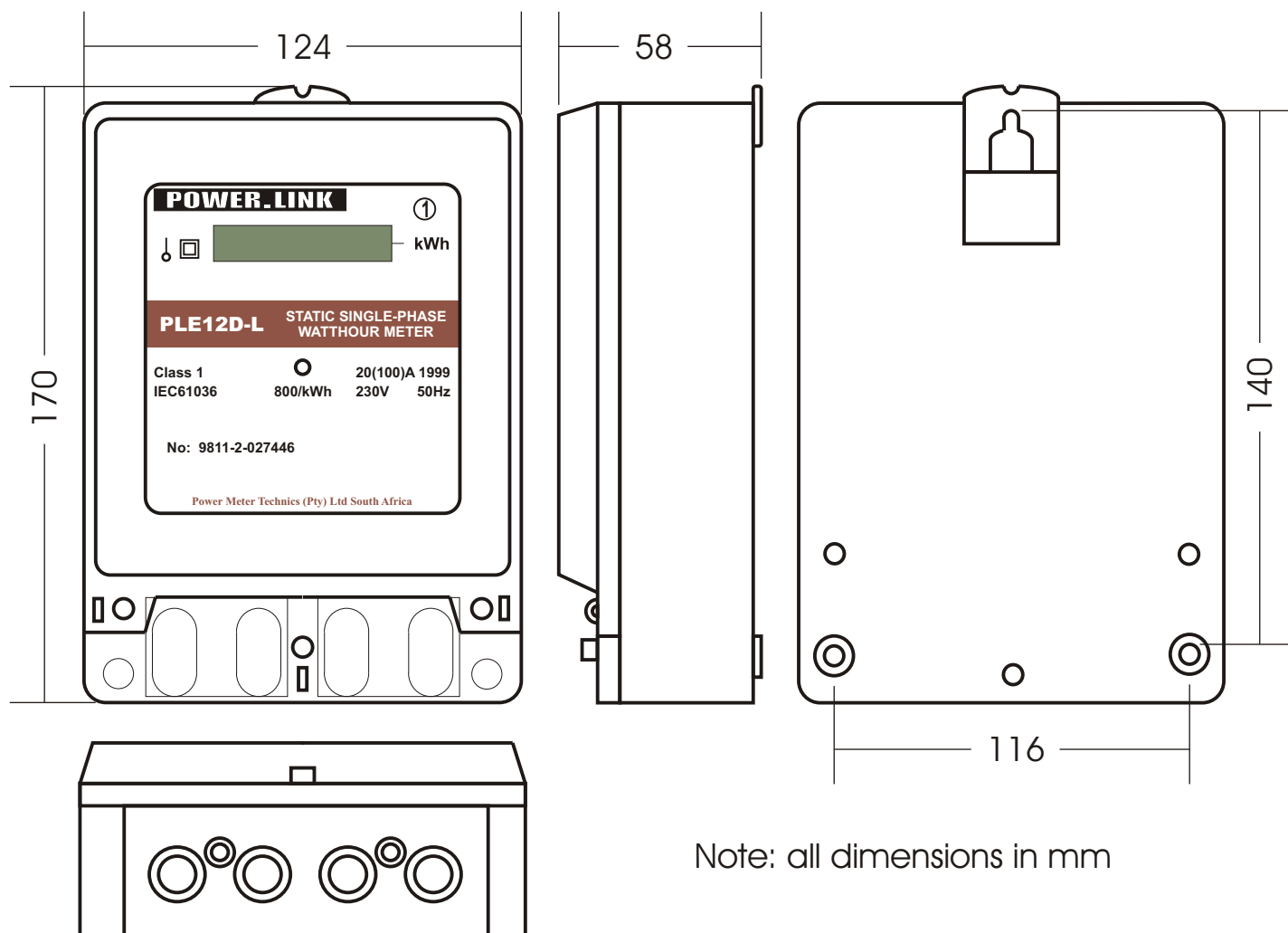
The meter Register uses a high contrast LCD display. Energy is displayed in six digits with one decimal. The design of the register ensures easy reading of the meter, and a permanent display. The meter makes use EEROM non-volatile memory for the meter register.

Output Pulse

The meter is fitted with an optically isolated potential free output pulse for use with secondary data collections devised. The pulses are proportional to the energy measured and are entirely bounce-free.

Seals

The meter has three sealing points: two on the meter cover and one on the terminal cover. It is this possible to seal the meter and terminal covers independently.



Note: all dimensions in mm

TECHNICAL SPECIFICATIONS

Meter type	PLE12D-L
Manufacturing standard	IEC 61036
Network connection	Direct connect single-phase two-wire
Optical Interface option	IEC1107
Basic (Maximum current)	1.5(6)A, 5(40), 10(60)A, 20(100)A
Standard reference voltage	110V, 120V, 220V, 230V, 240V
Rated frequency	50 or 60Hz
Temperature range	-10 to 45°C
Accuracy overload capacity	500%
Potential circuit burden	< 0.7W, 6VA
Current circuit burden	< 0.3W
Minimum starting and running current	0.4% Ib
Meter calibration constant (Pulse output constant)	800 (800)/kWh
Accuracy	Class 1 to IEC61036%
Short circuit current withstand capability	1.2kA for 0.5s
AC withstand voltage to 40°C and 100% humidity	2.5kV for 60s
Material of meter case (cover)	Bakelite (Polycarbonate)
Net mass of meter	0.55kg