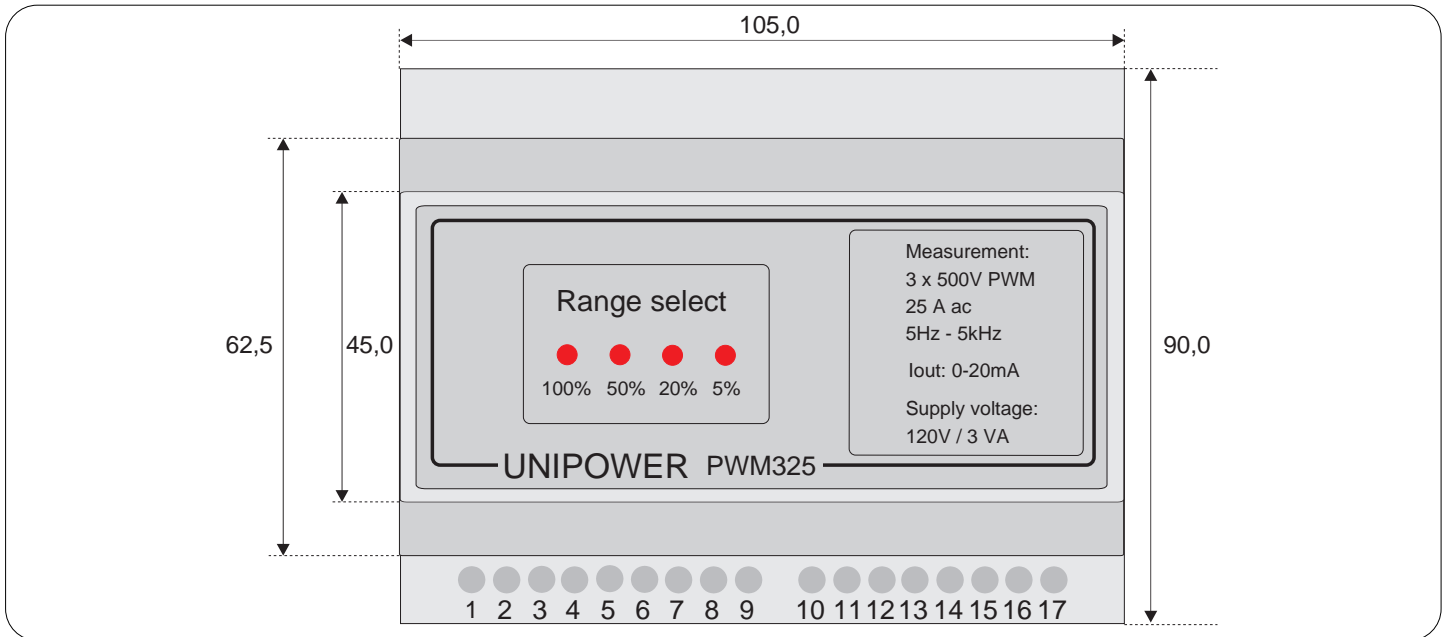


Unipower 3 Phase kW-Transducer PWM325

PWM325
3 x 500 Volt

Technical Information

Version 1.1



General.

Unipower PWM325 is designed primarily for measuring the power delivered by a frequency inverter. The Measurement calculation is:

$$P = \sqrt{3} \cdot U \cdot I \cdot \cos\phi$$

The PWM325 contains three current sensors for use up to 25 Amps.. (50 Amps on request). The 3-phase, Pulse Width Modulated output voltage from the inverter is measured with a bandwidth of 8MHz. Four opto-copuler isolated inputs allow a) the selection of 4 measuring ranges and b) four different filter characteristics. The transducer has analogue output 0(4) to 20 mA which is galvanically isolated from the measuring system by means of an isolation amplifier. The test voltage for the analogue is 1.5kVrms and 5kVrms for the measuring range and filter characteristic inputs.

Note: The PWM325 is designed for use with inductive loads only (Motors).

Technical Specification.

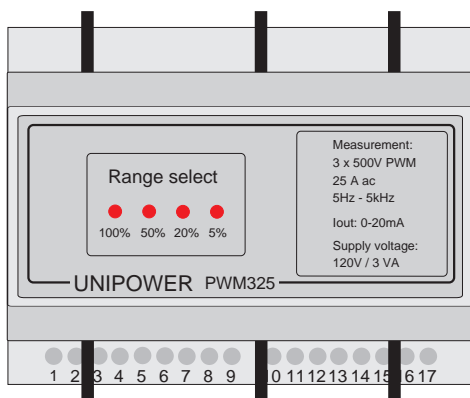
Mechanical

- Housing:** M36. Noryl.
- Mounting:** For 35 mm DIN-rail.
- Protection Class :** IP40.
- Temperature Range:** -15 - +50 C.
- Weight:** approx. 450g
- Dimensions:** D 73,0 x B 105,0 x H 90,0 mm.
- Connections:** Max 1,5 mm²

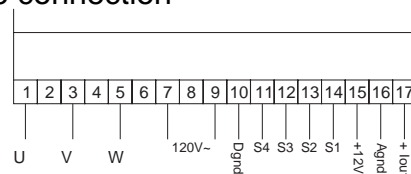
Electrical

- Voltage Input.:** 3 x 500 V PWM (0-600V max).
- Current Input:** 0-3 x 25 (50) Amp. 5Hz - 5kHz (Max 180%)
- Power Range:** 0-21.7 kW (0-43.3 kW)
- Supply Voltage:** 1 x 120 VAC +/- 10%. 3VA
- Analogue Output:** 0(4)-20mA, max 300Ω, galv. isol.
- Digital Inputs:** 10-30 VDC
- CE mark to:** EN50081-1, EN50082-2, EN61010-1

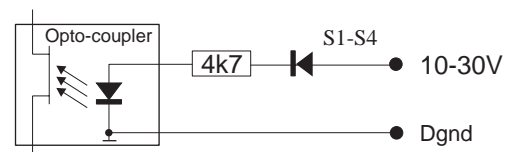
Current connection, max 10 mm²



Voltage connection



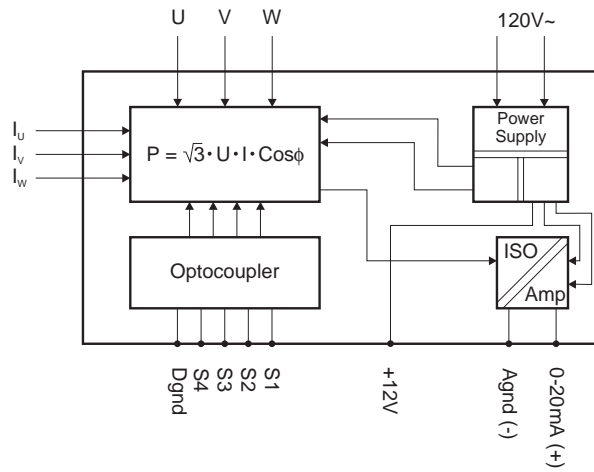
Digital inputs S1-S4



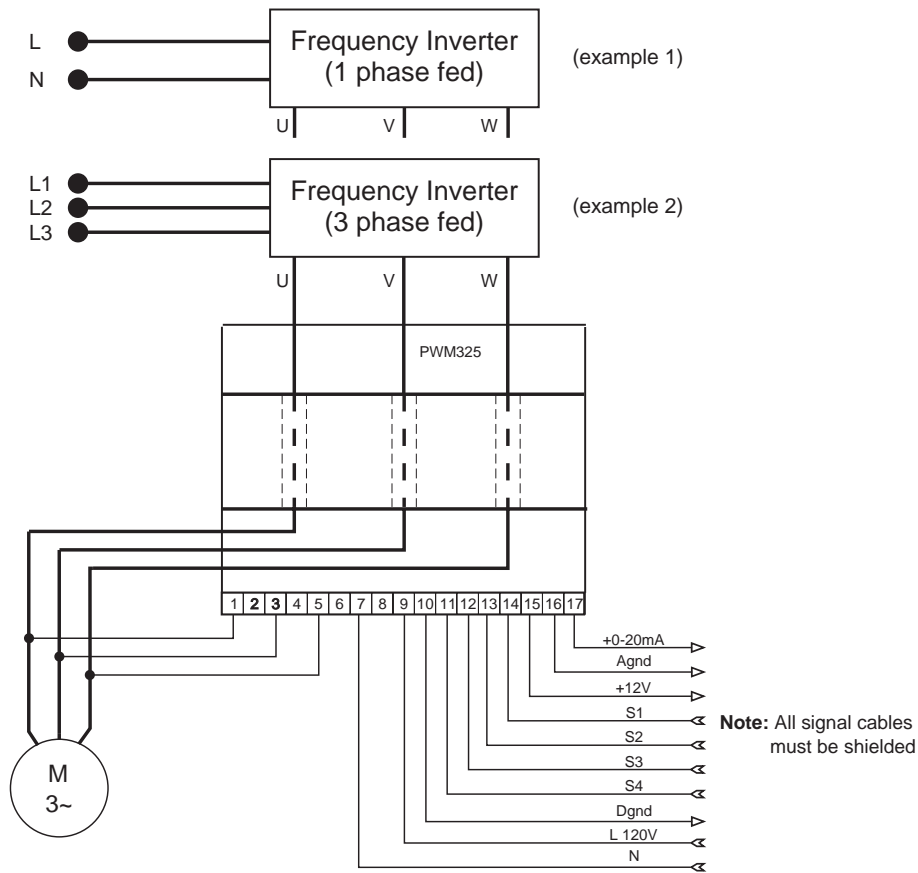
If you need further information about the HPL-family of *Intelligent Power-Control Units* and its ability to solve your problems, please do not hesitate to contact us

WENtechnology
Raleigh, NC, USA
(919) 954-1004 www.wentec.com

Block Diagram



PWM325 Connection details



The PWM325 transducer is connected between the inverter and the motor as shown in the drawing. The inverter can be supplied by either a single phase supply (example 1) or 3-phase supply (example 2). The cables from the inverter to the motor are fed through holes in the transducer in order for the transducer to measure the current in each phase. The voltage connections are made by connecting U, V, W to terminals 1, 3 & 5.

The cables can be passed in either direction through the holes in the transducer but all three cables must be the same direction. The phases can be connected in any order however the respective voltage terminal and current throughput cable must be connected in pairs as shown in the drawing. Connections U, V & W can be connected either to the motor or the inverter or any convenient location between.

Current measuring range and Filter selection.

Current measuring range:

S1	0	1	0	1
S2	0	0	1	1
Range %	5	20	50	100

Filter time constant selection

S3	0	1	0	1
S4	0	0	1	1
tc (τ) ms	20	40	80	200

The inputs S1-S4 can be controlled from a PLC or selector switch, or by hard wire for permanent selection by connecting the desired input to 12V (terminal 15) and by connecting Agnd (terminal 16) to Dgnd (terminal 10). In the tables shown "1" means 10-30V and "0" means 0 volts or terminal not connected. If the transducer is controlled by a PLC Dgnd (terminal 10) must be connected to PLC Gnd.

For currents above 25 Amp it is possible to use a current transformer with secondary rating of 5Amps.