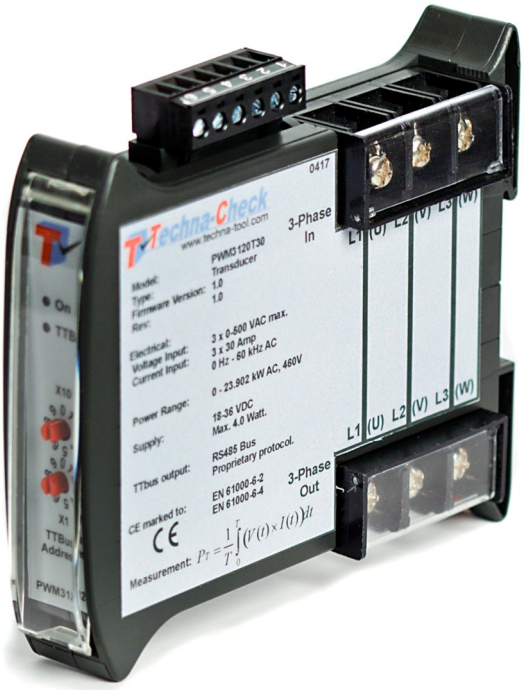
PWM3120T Load Transducer

Load Transducer for 3-phase AC Loads

An ultra-fast measurement and ultra precise transducer specifically developed for Machine Tool Monitoring applications.The PWM3110T is a unique design based on the fastest available 32 bit Microcontroller and **18 bit** successive approximation AD Converters. A sampling rate of **150kHz** ensure precise and correct measurement even when used with Frequency Inverters with 20kHz PWM base frequencies and higher.

PWM3120T measures true motor power [kW].

- **TTBus Output**
  Proprietary RS485 type Sensor Bus
- **8 Programmable Measurement Ranges**
  1, 2.5, 5, 10, 15, 25, 50 or 100%
- **Shunt Sensors**
  6 Amp. or 30 Amp. unit available as standard.
  Custom ranges available upon request.



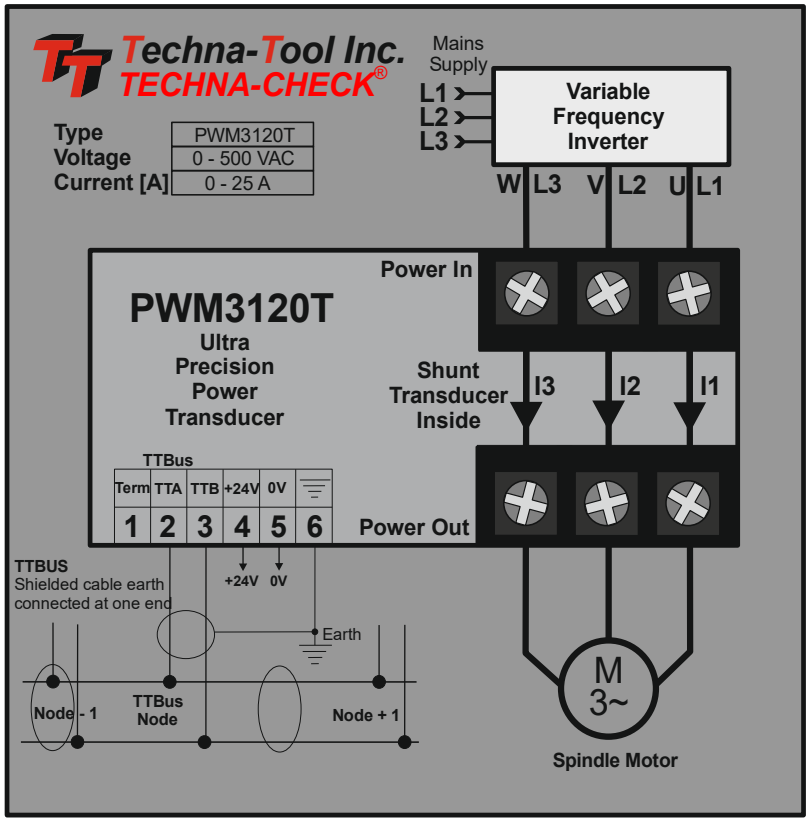
Technical Specification

Mechanical

Housing:	Polycarbonate.
Mounting:	35 mm DIN-rail.
Protection Class:	IP40.
Temp. Range:	-15 to + 50 C.
Weight:	App. 200g.
Dimensions:	118 x 30 x 110 mm.

Electrical

Voltage Input:	3 x 0-500 VAC max.
Current Input:	3 x 6 Amp or 3 x 30 Amp 0 Hz - 60kHz
Power Range:	0 - 4.780 kW AC (6A, 460 V) 0 - 23.902 kW AC (30A, 460V)
Supply:	18-36 V DC max. 4.0 Watt.
TTbus output:	RS485 - proprietary protocol.



Features

The PWM3120T is designed primarily for measuring AC power consumed by motors driven by Variable Frequency Inverters. AC power is measured from the formula:

$$P_T = \frac{1}{T}\int_0^T \left(V(t) \times I(t)\right) dt$$

Where: T = period, V(t) = voltage and I(t) = current.

The PWM3120T Power Transducer is specifically developed to function as a load transducer for the ***TECHNA- CHECK***® Range of Machine Tool Monitors.

A Power Transducer for Tool-Monitoring must be fast and accurate. Sometime the measurement speed is as high as one half period, unlike commercial power-meters, which measure power averaged over several seconds.

Please note that most commercial Power Meters will not even be able to measure Power correctly after a Variable Frequency Inverter. The transducer interfaces to Tool Monitor Applications via the proprietary TTBus interface.

The shunts (resistors actually) used by this device represents the most accurate, linear and insensitive to external electromagnetic fields sensor available (unlike Hall Sensors and Current Transformers).