

Load Transducer for 1- or 3-phase AC Loads

An ultra-fast and precise measurement 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.

PWM3110T measures true motor power [kW].

- ◆ **TTBus Output**
Proprietary RS485 type Sensor Bus
- ◆ **13 Programmable Measurement Ranges**
0.01, 0.025, 0.05, 0.1, 0.25, 0.5, 1, 2.5, 5, 10, 25, 50 or 100%
- ◆ **Hall Sensors**
200 Amp, 500 Amp. or 1000 Amp available

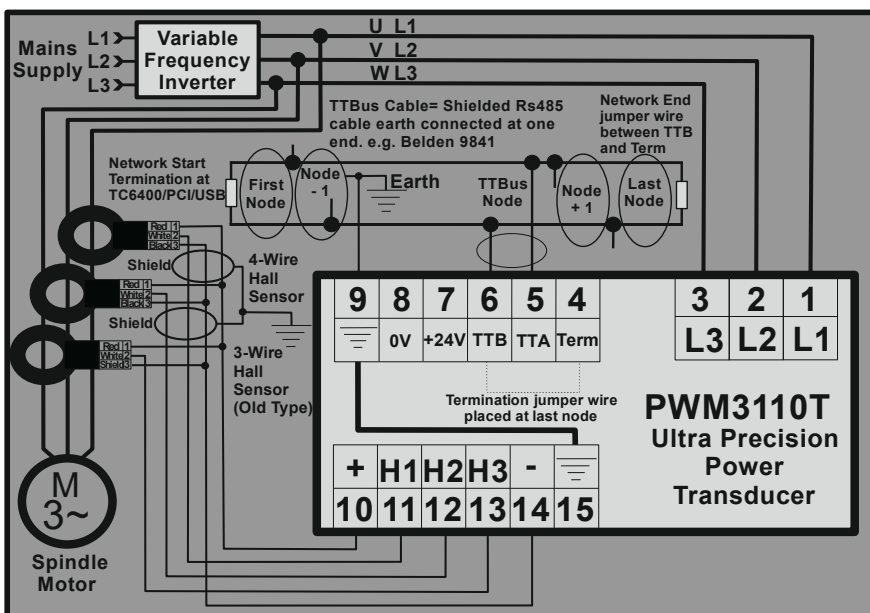
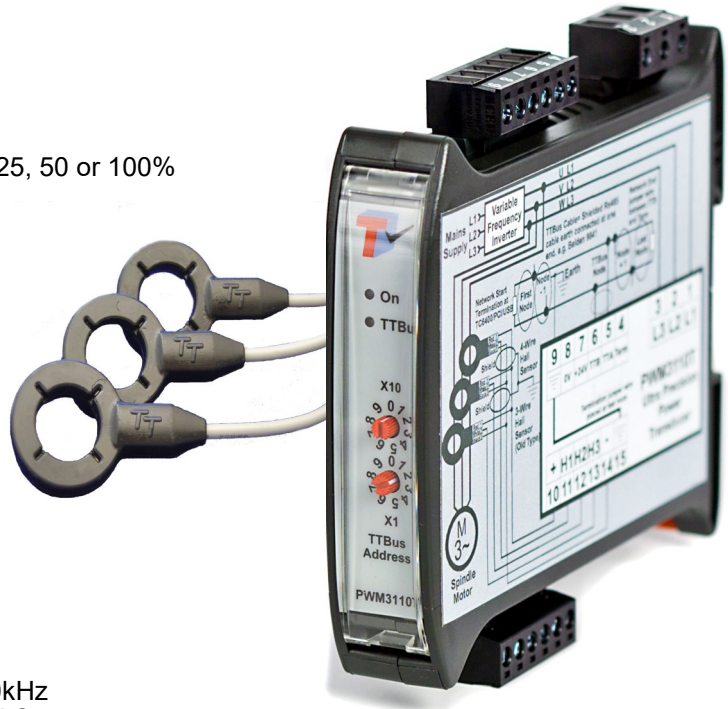
Technical Specification

Mechanical

Housing: Polycarbonate.
 Mounting: 35 mm DIN-rail.
 Protection Class: IP40.
 Temp. Range: -15 to + 50 C.
 Weight: App. 200g.
 Dimensions: 120 x 23,5 x 113 mm.

Electrical

Voltage Input: 3 x 0-500 VAC/VDC max.
 Current Input: 3 x 200/500/1000 A, 0 Hz - 60kHz
 Power Range: 160, 398 or 797 kW at 460 VAC.
 Supply: 18-36 V DC max. 4.0 Watt.
 TTbus output: RS485 - proprietary protocol.



Features

The PWM3110T is designed primarily for measuring AC power delivered to motors driven by Variable Frequency Inverters. AC power is measured from the formula:

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

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

The PWM3110T Power or Current 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 three motor wires **must** pass through the external hall sensors in the **same direction** to the motor either from Top-Bottom or from Bottom-Up.