

# UNIVERSAL TIME BASE, NEMA Version

by Trafictec

The Trafictec® **Universal Time Base (UTB), NEMA Version** is based on the original Universal Time Base design and tailored to work specifically with NEMA controllers. It offers the same GPS precise timing and reliability as the original UTB but at a lower cost. The UTB NEMA Version outputs a 1 second long pulse at the user defined time of day. This precisely timed pulse is used by the NEMA controller to reset its internal clock thereby eliminating clock drift. Once installed in the cabinet, the UTB requires no routine maintenance.

The hardware consists of a GPS receiver with discreet antenna and a microprocessor based electronic circuit, which interprets the GPS time data. GPS time is constantly compared to the user specified pulse time. The 1 second long pulse is output at precisely the specified time everyday.

The UTB NEMA Version is extremely easy to install and use. It requires no software and can be installed in less than an hour in most cabinets. The only setup requirement is to select the time zone and the time of day when the pulse should be output. Both are selected using DIP switches on the UTB's circuit board. Most NEMA controllers look for a pulse at 3:00, 3:30 or 4:00 A.M. and some NEMA controllers allow the user to select the time the pulse should be received. The pulse is output ever day at the specified time, without the need to "Poll" the UTB. If power to the cabinet is interrupted, the UTB will quickly reestablish the correct time, after the cabinet power has been restored.

The Trafictec Universal Time Base is housed in a small plastic enclosure, which has two mounting flanges. The enclosure is not weatherproof and must be mounted inside a suitable weatherproof cabinet or used indoors. The maximum operating temperature range for the Universal Time Base is -30 to +80 degrees centigrade. The unit must be connected to a +24 volts DC, supply. The standard device's electrical current consumption, including the powered antenna, is approximately 40 milliamps. The UTB NEMA Version is connected to the controller's time reset input and to the cabinet's 24 volt power supply via a simple 4 conductor cable (optional or user provided). The small antenna is bolted through the top of the NEMA cabinet.

A small GPS antenna is supplied with a 1 meter long coax cable. Longer cable lengths are available as an option. For best results and the shortest lock on time, the antenna should be placed where it has a clear view of the sky. It may be necessary to mount the antenna on a pole or rooftop to improve its reception.



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