

APPLICATION NOTE

Interfacing a Measurement Station with a Trans-Lux Message Center



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Interfacing a Measurement Station with a Trans-Lux Message Center

This application note describes interfacing a Campbell Scientific measurement station with a Trans-Lux message center. This allows a sign to display and automatically update maximum and/or minimum temperatures, wind speed, solar radiation, dew point, vapor pressure, relative humidity, evapotranspiration, or other real-time data. A PC routes the data from the station to the display center at one second intervals. Words other than the data can be shown on the sign by typing them into the PC.

Required Equipment

Campbell Scientific

- TLX106 Station. The TLX106 is a T.Weather station with a CR10X-TD (TB10X-OS) instead of a standard CR10X. The TLX106 also includes a CS105 barometer which isn't included in a standard T.Weather station. This station was developed specifically for use with a Trans-Lux center. The TLX106 supports PC to station communications using a short haul or phone modem. The modem type is designated at the time of ordering. You can interface a Trans-Lux message center with measurement stations other than a TLX106 as long as a table-based datalogger is used. If you are not using a TLX106, see the Special Considerations section.
- LoggerNet Software 1.1 server.
- Special program (p/n 14079) downloaded by an Applications Engineer at Campbell Scientific's factory. This program controls operation of the TLX106.

Trans-Lux

- Any message center.
- ProLine Software.
- Weather Station Source (CSI p/n 14078 bundled with ProLine; sold by Translux with Weather Station Source).

Procedure

Measure Sensors and Process Data

A pre-written datalogger program (PN 14079) comes installed on the TLX106. This program sets the scan rate, measures the sensors, processes the data, and stores the data in a table. If not using a TLX106, refer to the Special Considerations section.

Retrieve Data from the Datalogger

LoggerNet retrieves the data from the datalogger at the rate that was specified in LoggerNet. LoggerNet sends the data to ProLine software's replaceable database engine (RDE). To do this, some computer code (p/n 14078) was written that directs the RDE to look for:

- Datalogger Name
- Table Name
- Field Name

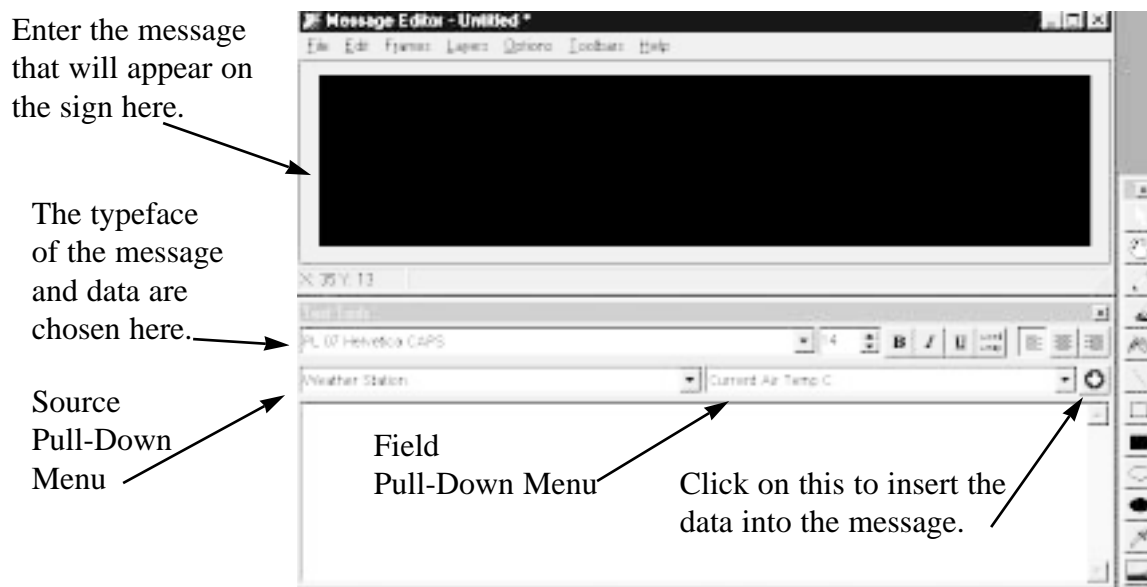


FIGURE 1. ProLine software provides an easy-to-use message editor.



FIGURE 2. The available options provided by the source menu are shown.



FIGURE 3. When the weather station source has been chosen, several meteorological conditions reported in various units are provided under the field menu.

The RDE takes the data from the selected location in the cache memory, and puts it in the corresponding RDE slot. The slot in the RDE has a field name that will appear in the message editor's Field Pull-Down menu (see Figures 1 and 3).

Create Message

Perform the following steps using the Message Editor provided in ProLine Software:

1. Type the message in the area indicated in Figure 1.
2. Move cursor to where you want data inserted.
3. Select a source from the Source Pull-Down Menu (Figure 2)
4. Select the desired field (Figure 3)
5. Click on the white cross (Figure 1) and the data stored in the selected field will be inserted into the message where the cursor is located.

Update Data

When the message is played in a schedule, the RDE will display the value that has been most recently received from the LoggerNet cache. If LoggerNet updates the cache while the message is being displayed, the RDE will push the new value out to the display, hence you get continual updates.

Special Considerations

This system can display any value recorded by a table-based datalogger, but the datalogger, table, and field names must be consistent with the hard code. For example, if you wanted to display RPMs of an engine, you would need to name the input location "DewPointC", and the table it records in, "ThirtySecond", and the Datalogger "lgr1", and then in ProLine insert the "Weather Parameters" source and the "Dew Point °C" field in the message. This would then display the RPMs of that engine labeled as Dew Point °C. If application-specific names are desired, Campbell Scientific can rename the hard code interface to match the datalogger program. There is a charge for this service; it is variable depending on the complexity of the changes. Contact the factory for a quote.