Time Central PROLINE II

General description

Westerstrand time centrals are built around a 19" modular concept of the type" Distributed intelligence" which means that all modules have its own intelligence and thus there is no central module that the other modules are depending on.
Thereby You get a system of high reliability required in e.g. power plants or airports.

A large number of modules, battery packs and power supplies are available.
A passive backplane is connecting the modules together and all modules are of plug and play type which means that they can be plugged in and out online without any disturbance to the other modules.

The Time Centrals are built up by a 19" modular system with a height of 3HE (height units). The backbone of the system consists of closed 19" casing to be mounted in a stand or open 19" casing to be mounted in a cabinet. Each module occupies 4-48 TE (width units). There is room for 84 TE (width units) in the casings, but max 20 pc of 4TE modules can be placed in one casing.

A priority list is stored in the modules that tell them which module they shall synchronize the time to. If the module with the highest priority is unavailable, the next module in the list is used as the time reference. If all modules in the time central are unavailable, the modules will continue to run on their own built in time base. When a module with priority is available again, the time is synchronized to that module. This is done automatically and no manual programming is needed.

The highest priority is normally given to a synchronization module with a GPS-receiver/antenna connected.
If the time central is equipped with an Ethernet module acting as a NTP-client this should be set to top priority.
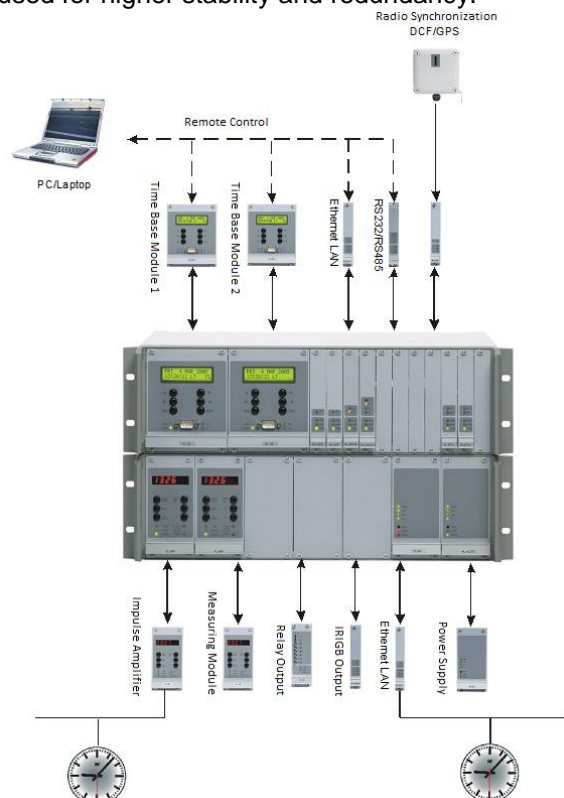The time central with Ethernet module can act as NTP time server and/or client.

Each module has LED's on the front indicating status, alarm and primary timeserver. Each module also has LED's to indicate module specific tasks. A sum alarm is available in the back of the time central via a potential free switchover contact.

There are also modules to connect different types of slave clocks, relay outputs and different types of communication interfaces etc.
See separate leaflets.

The time central can be configured via the Ethernet module which also can be used for supervision and alarm handling.

Power supplies are available in different voltage and current versions. Dual power supplies can be used for higher stability and redundancy.

Modules / Accessories /Software

PL-TB - Time Base module
The programming of the time central is conducted from this module. The Time Base module can also be equipped with an oscillator with high accuracy if an external synchronization is not available.

Item No#	Info	Leaflet
123720-00	PL-TB.	E6051

Oscillators
Built into the Time Base module

Item No#	Info	Leaflet
123754-01	DCOCXO	E6111
123754-10	OCXO	E6088
123758-00	HOSC	E6081
123758-02	TCXO	E6121
123766-00	Rubidium	E6082
123789-15	OSCH, DCOCXO	E6104

PL-SYNC - Synchronization module
This module can be synchronized from external source e.g. a GPS-antenna/receiver.

Item No#	Info	Leaflet
123755-00	PL-SYNC	E6077

PL-ETH - Ethernet module
The Ethernet module can act as a NTP time server and thereby synchronize all network connected equipment supporting this standard protocol. Or act as a NTP-client.
The Ethernet module also have support for the standard protocol SNMP and HTTP

Item No#	Info	Leaflet
123784-10	PL-ETH.	E6052
123784-60	PL-ETH. PTP	E6103

PL-IMP - Impulse amplifier
This module has an output of 24VDC 1A or 2A and can be configured with different types of impulse systems e.g. polarized 1/1-minute, 1/2-minute, 1/1-second or Time Code. The time can be presented as local time, normal time or UTC.

Item No#	Info	Leaflet
123770-00	PL-IMP. 1A	E6054
123774-00	PL-IMP. 2A	E6054

PL-IRIGB - Time code sender
This module is sending a modulated time message according to IRIG-B standard. The time can be presented as local time, normal time or UTC.

Item No#	Info	Leaflet
123763-00	PL-IRIGB	E6062

PL-Y8 - Relay output module.
The relay output module is equipped with 4 closing and 4 switchover potential free relay contacts which also can be forced from the front.
Max 8 modules can be mounted in a time central with a total of 64 relay outputs.

Item No#	Info	Leaflet
123740-00	PL-Y8 1-8	E6052
123741-00	PL-Y8 9-16	E6052

PL-RS/RS232 - Serial communication
These modules are used for communication to other systems e.g. in ships and oil rigs.

Item No#	Info	Leaflet
123760-00	RS232	E6060
123762-00	RS232/485	E6068

PL-MEAS - Measurement module
The measurement module is used together with the impulse amplifier and can measure the output voltage and current. The measurement module is also equipped with an earth alarm function.

Item No#	Info	Leaflet
123787-00	PL-MEAS.	E6092

PL-ACDC - Power supply.
With protection against overload and short circuit. Alarm handling and measurement of voltage, current and temperature.
Programmable alarm levels. Automatic switch off when the voltage is too low.

Item No#	Info	Leaflet
123791-00	230V/ 2.5A	E6058
123792-00	85-264V/ 5A	E6058
123793-00	85-264V/ 10A	E6058
123794-00	85-264V/ 20A	E6058

PL-DC - Power supply
Capacity depending on connected power.

Item No#	Info	Leaflet
123795-00	24VDC	E6091
123795-15	48VDC	E6091
123795-20	60VDC	E6091

PL-BATT - Battery pack
Battery pack is used as a running reserve at power failures.

Item No#	Info	Leaflet
123801-00	2.9Ah.	E6057
123802-00	10Ah	E6057
123803-00	20Ah	E6057

Modules / Accessories /Software

PL-FR - Frequency output module
PL-FR is a Reference Clock source used for synchronization purpose.

Item No#	Info	Leaflet
123789-00	2.048 MHz	E6064
123789-10	5/10 Mhz	E6065
123789-51	2MHz/Mbit/s E1	E6106

PL-FREQ - Frequency input module
PL-FREQ, is used when a Pro-Line Time Central is synchronized from an external frequency source

Item No#	Info	Leaflet
123756-02	2.048 MHz	E6090

19" Casing
Westerstrand time centrals are built around a 19" modular concept where the backbone is closed or open casings for mounting in stand or cabinet.

Item No#	Info	Leaflet
123712-12	19" Cabinet	E6059
123712-13	19" Stand	E6059
123712-14	19" Stand Semi flush	E6059

Cover Plates
To cover unused module slots in the 19" casing

Item No#	Info	Leaflet
123718-04	4TE	E6059
123718-08	8TE	E6059
123712-12	12TE	E6059

Wall Cabinets

Item No#	Info
20118-26	Cabinet 3HE
20118-27	Cabinet 6HE
20118-28	Cabinet 9HE
20118-29	Cabinet 12HE
20118-30	Cabinet 15HE

Software

Item No#	Info	Leaflet
123701-00	WEBO	
123703-00	WEBO-Alarm	
123704-00	ProLine Relay Software	
(xx-xx)	Westerstrand Network Monitoring System	E257

GPS antenna / receiver

Item No#	Info	Leaflet
122980-50	GPS	E254
122980-51	GPS IP66	E256
122980-11	GPS EX PPS	E6105

DCF antenna / receiver

Item No#	Info	Leaflet
122984-40	DCF-77	E253

Lightning barrier
Provides repeated protection in lightning intense environments.

Item No#	Info	Leaflet
123708-00	Lightning barrier	E6076

Standards Compliance:
EN 61000-6-3 Emission
EN 61000-6-2 Immunity
EN 50121-4
EN 60950 LVD