PCM5-2

DEIF

Advanced Wind turbine Controller

Link/Activity
EtherCAT
OUT
Port 1

Link/Activity
EtherCAT
OUT
Port 2

Eth1   Eth2

Run
Status

RS-422/485

CAN

AWC 500

USB
host

USB
device

AWC 500 PCM5·2
1GHZ DUAL CORE CPU WITH REAL-TIME
LINUX OS AND CODESYS

DEIF

AWC 500 PCM5·2

1 GHz dual core CPU with real-time Linux OS and CODESYS

DEIF's PCM5·2 Power and Control module, for the AWC 500 series offers processing power and gigabit network connectivity at data server level. Without compromising on its capability to cope with the toughest climate demanding environments, the PCM5·2 is a rugged and reliable PLC well suited for distributed and remote energy generation for example wind turbines.

New series production designs or batch retrofit

PCM5·2 has been built to last for a minimum of 20 years and is fully operational in temperatures from -40 °C to +70 °C. Through software updates and maintenance, the operating system is kept up to date with latest security patches.

Go Linux with our 1GHz dual core ARMv7 based controller

PCM5·2 can be used instead of an industrial PC due to its open, real-time Linux-based operating system, while maintaining cost-effective advantages of an embedded controller. For this solution, our C/C++ development package with your favorite IDE, and our Windows and Linux SDK. Linux as the operating system gives you access to a large amount of open-source software, tools, literature and communities on the Internet. Most importantly, the Linux operating system is maintained 100 % in-house by DEIF giving you access to specific customisations and services.

PCM5·2 comes with CODESYS V3.5 and web visualisation for use as a general PLC, making it easy to run existing PLC code.

PCM5·2 features

► 1 GHz dual core CPU (ARM Cortex-A7 with ECC protection)

► 1 GB DDR3 RAM (with ECC protection)

► Up to 64 GB storage (1 MB power loss protected)

► 2 independent Gigabit network interfaces

► USB 3.0 Host, CAN/CANopen, RS-422/485

► Watchdogs on 4 different levels

► Real-time Linux OS (PREEMPT patched and maintained in-house 100 % at DEIF)

► 24V (18...32V) internal power supply with 1 s internal UPS.

► <5 second startup-time from power on

► Failsafe remote update

► Power fail safe, self-monitoring and error-correcting filesystem (ext4)

► Secure access (SSL, SCP, HTTPS, Build-in VPN etc)

► Build-in Internet Technology:
  ▪ HTML5/JavaScript webservers
  ▪ HTTPS/REST/JSON
  ▪ Secure WebSocket

► Hot-standby controller redundancy

► C/C++ (Eclipse / GNU C++)

► CODESYS V3.5 PLC run-time and web visualization
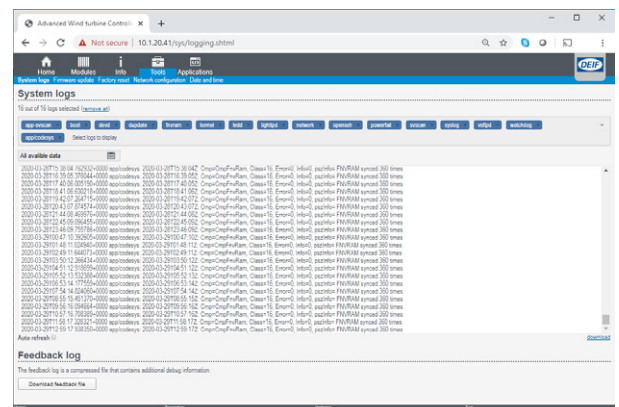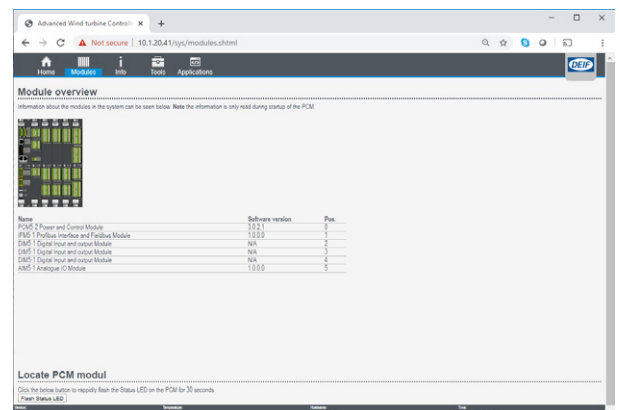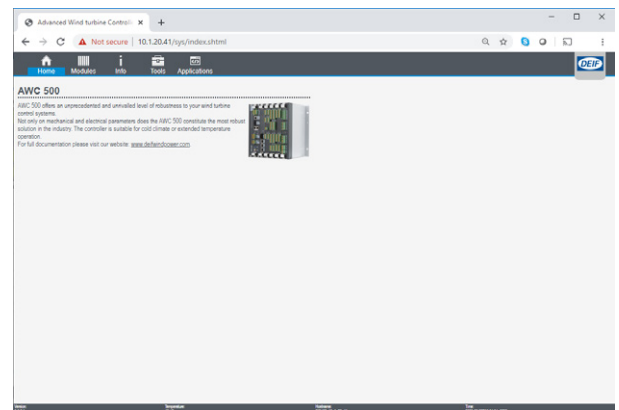
► MATLAB/Simulink Interface (PLC Link)

AWC 500 PCM5·2

Real time Linux based controller

Robustness designed into every detail for tough climate conditions

The module can be applied in all sites, located in cold or hot climates, near-shore, offshore, onshore, at high altitudes. Robustness features include:

► CPU with error checking and correction (ECC) on internal cache and the external memory which makes it immune to single-bit errors

► Self-monitoring and error-correcting filesystem

► Watchdogs on 4 different hardware and software levels

► 100 % in-house maintained embedded real-time Linux operating system with fail-safe remote update.

PCM5·2 interfaces to the wind industry's most widely used protocols like RS-422/485, Profibus, CANopen and EtherCAT.

For further information visit:

www.deif.com/products/awc-500

AWC 500 features

► Designed to last more than 20 years

► 100 % production-tested system units

► Up to 5 year warrenty

► Full traceability

► Suitable for onshore and offshore installations:
  ▪ -40 to 70 °C operating range
  ▪ 55 °C 97 % RH condensing
  ▪ Coated PCBs

► Up to 4,000 m altitude

► More protection for ESD, Surge and Burst (x2)

DEIF A/S

Frisenborgvej 33, 7800 Skive, Denmark

Tel. +45 9614 9614

Learn more at deif.com