

Machine Control - Display

Application Platform

- **Human Machine Interface (HMI) Display for reliable data collection and remote monitoring with short response time**
- **Integral I/O for connection to joystick, switches, etc. extends the capability of the machine control application**
- **Flexible communications (3 RS-232 ports, 2 CAN ports, Ethernet, 2 USB)**
- **Total machine or vehicle control (module acts as a master module in a CAN networked motion control system)**
- **Flexible PCB for custom-applications or ruggedly packaged for mobile, military and mining applications**
- **Easy to use selectable screen displays, a mode selector knob, function buttons and variable adjustment knob**

Specifications

Type	Graphical user interface – dashboard mount with RAM mount Application Platform
Order code	AX050200 (For PCB only, AX050201)
Model name	DMi270
On-board I/O	40 digital inputs (24V, 24 PNP and 16 NPN) 8 analog inputs, 12-bit (0...5V / 0...10V software configurable) Encoder input 16 digital outputs (24V, PNP, 500 mA/channel) – High side switching 4 signal outputs (0-5V)
Interfaces	3 x RS-232 (COM 1 TTL level with all handshake signals) 2 x CAN 2.0b (Other CAN protocols on request) 2 x USB 1.0 1 x Ethernet
Graphics controller	QVGA compatible up to 320 x 240 pixel resolution, 4-bit digital Memory 2 Mbytes
Display type	Electroluminescent (Planar EL320.240.36-HB and Planar 160.120.39) Both analog and digital Protected with an 8 mm polycarbonate plastic shield in housing. Header connector for thin film transistor (TFT) display provided.
Display size	With packaging shown 5.6" (115 x 86 mm active area) 320 x 240 pixels Other packaging styles can accommodate various display sizes.
Input devices (with housing shown)	Mode selector switch (max. 10 position rotary switch) Adjustment knob (optical encoder with a push button) 5 function buttons, vandal resistant
Operating system	Linux Kernel modules and libraries are provided for interfacing to the unit.
Main processor	PXA270 32MB RAM 32MB Flash + 2 MB Boot Flash
Control Logic	Application-specific Contact Axiomatic with your requirements.
CAN controllers	Philips SJA1000
Clock	Real time clock with battery back up
LED indicators	Green – Power OK Red – Used for diagnostics (Contact manufacturer.)
Operating voltage	9 – 36VDC, overcurrent fuse Fused output for networked devices
Operating temperature range	-40...+85°C (-40...+185°F)
Dimensions	Dimensions of Display module in housing shown 200 x 160 x 35 mm 7.87 x 6.30 x 0.14 inches (excluding connectors) Available as a PCB or packaged (other housing styles on request)
Protection Class	IP65 for Display module shown
Accessories	RAM mount Mating connectors for CAN connectors (military-style) RS-232 communications cable (PC to HMI Display Module) Gender changer for above cable



Applications

- mobile applications, vehicles
- work machines
- cranes, elevators
- robotics, material handling machines
- industrial automation

Product description

The display module is a flexible Human Machine Interface (HMI). It can act as a system master module in a machine CAN network and is compatible with most customer applications involving common CAN systems. Two CAN 2.0b interfaces are provided to permit networking with two CAN systems. Additional flexibility for configuration and data handling is provided with four RS-232 interfaces, an USB port for PC download or information sharing and Ethernet data handling connection. The module features a large 32 MB flash memory and an internal real time clock with battery back up. As shown above, the packaged module includes easy to use selectable on-screen displays with a mode selector knob, function buttons below the display, and an adjustment knob for changing the values of parameters.

Increased functionality is provided by extra I/O for connection of a joystick, switches, buttons, lamps, etc. directly to the module. Power supply for the module can be in the range of 9 - 36V and the module is protected against reverse battery connection, overvoltage, and load-dump situations.

The HMI Display module is available as a PCB or packaged in a rugged IP65 rated housing with user input devices (buttons, select switches, adjust knob) for mobile and military applications. Buttons are heavy-duty, "vandal-proof" models having a long lifetime, and the display screen is protected with an extra-tough polycarbonate plastic shield (8 mm). The power and CAN bus connector is an AMP MIL-C-5015 series threaded connector. Three RS-232 ports and digital inputs are wired through M8 connectors. The module can also be supplied with customer-specific connectors (the connector plate can be changed).

The display module is supplied with Linux operating system in the standard configuration. The manufacturer provides kernel modules and libraries for interfacing with the I/O, communication interfaces and the display. Graphics can include bitmaps, charts and trend displays or box characters created by any Linux based software or can be designed by the manufacturer to suit the application.

Flexibility for OEM applications is provided. Other CAN protocols (SAE J1939) or custom protocols are available on request. The module itself consists of a PCB that can be inserted into the desired housing and matched with the desired display type. A customer-specific housing may suit applications like remote control, integration into a dashboard, and others.

For connection information, contact Axiomatic.

TDAX050200-11/27/08