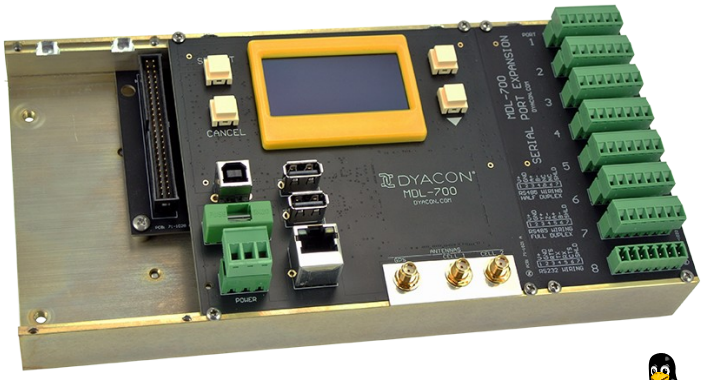
DYACON®

Modular Data Logger Series MDL-700™

***Preliminary * DATA SHEET**

FEATURE SUMMARY

- Linux operating system
- Fully programmable with Python, C, C++, and more
- Standard Ethernet, USB device, USB host
- OLED display
- Integrated wireless options
- Expandable instrument inputs
- Analog, SDI-12, RS-485, RS-232, frequency input, and more options.
- Dedicated solar charge controller
- Control output options



DESCRIPTION

MDL-700™ is a programmable data logger with a Linux®* operating system.

MDL-700 is purpose-built by Dyacon engineers and natively includes specialized I/O required for environmental and site monitoring applications. System architecture is tuned to the unique needs of remote data collection and control.

The open-source operating system allows software developers to utilize familiar programming tools and data interfaces in order to create a custom solution in a short time. Programmers can build applications on their desktop or directly on MDL using Python, C, or C++.

Those migrating from hobby boards will appreciate the integrated system, including display, hardened electronics, and industrial connectors.

Applications

MDL-700 may be programmed to monitor a range of sensors and control outputs using available expansion boards. This makes the system adaptable for:

Environmental research
Remote site monitoring
Remote command and control
Process automation
Equipment testing

*Linux® is a registered trademark of Linus Torvalds. Tux the Penguin was created by Larry Ewing.

KEY FEATURES

Construction: MDL-700 uses a solid aluminum base with provisions for both wall and DIN rail mounting.

Expansion boards may be attached in the same base or cable connected to adjacent bases.

Connections: Sensor and power connections use 3.81 mm pitch pluggable terminal blocks for easy wiring and maintenance. One connector is used for each sensor port.

Ethernet uses standard 8-pin modular connector. Standard Type-A and B connectors are used for USB host and device connections.

Expandability: Environmental data logger applications imply unique measurement needs. MDL-700 accommodates a diversity of applications with modular construction. Researchers and sophisticated industrial users can add I/O boards to the base module.

ENVIRONMENTAL

Operating Temp	-35 °C to 75 °C
Storage Temp	-40 °C to 85 °C
Humidity	90% RH, non-condensing

POWER FEATURES

Input	7.5 VDC to 36 VDC
	Transient protected
	Reverse voltage protected
	Approximately 45 mAavg @ 13 V

I/O AND CONNECTORS

Main Module	Power input
	Ethernet
	USB host port
	2x USB device ports
	Expansion module connectors
	Internal SD card holder
Communication Module	Cell phone with SMA antenna connectors.

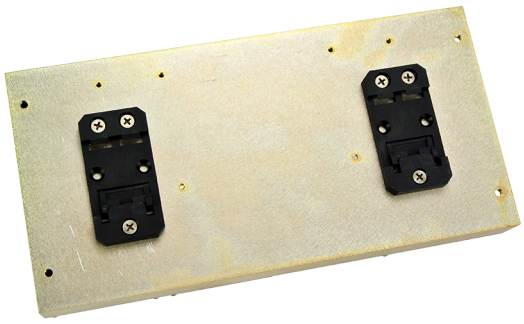
USER INTERFACE

Display	128 x 64 OLED Full operating temperature range. Automatic shutoff.
LEDs	Power and status LED.
Buttons	Programmable, 4-button interface.

Expansion Module Options

Serial port	8x Serial port (RS-232/485)
Solar Charge Controller*	24 VDC 5 A
Power Regulator*	48 VDC to 12 VDC power converter
Circuit Protection*	Individual port lightning protection
SDI-12*	4x SDI-12
Analog*	8x 24-bit analog to digital
Mixed Signal*	RS-232/485, Analog, Pulse, SDI-12
Custom*	Custom expansion modules can be developed for unique applications.
Control Output	4x Relay output

* Features subject to change. Release data to be determined.



OS, MEMORY, & µP

OS	Linux 4.14
Processor	32-bit ARM Cortex-A5
	500 MHz
RAM	128 MB DDR2 SDRAM
Flash	4 GB eMMC (Optional 32 GB)
Clock (Optional)	RTC, battery-backed
Security (Optional)	Secure Boot

MECHANICAL

Enclosure	Aluminum channel
Dimensions	2.5” H x 5” W x 9” Long (64 mm x 128 mm x 229 mm)
Mounting	Wall and DIN rail features

REGULATORY

Emissions	TBD
Immunity	TBD

Developer I/O (Internal Features)

Console Port	USB device port, 115 kbps

Wireless Features

WiFi	Add to SD card slot.
Cell Phone	Embedded LTE cell phone.
GPS	Internal to cell phone. Optional GPS-only.