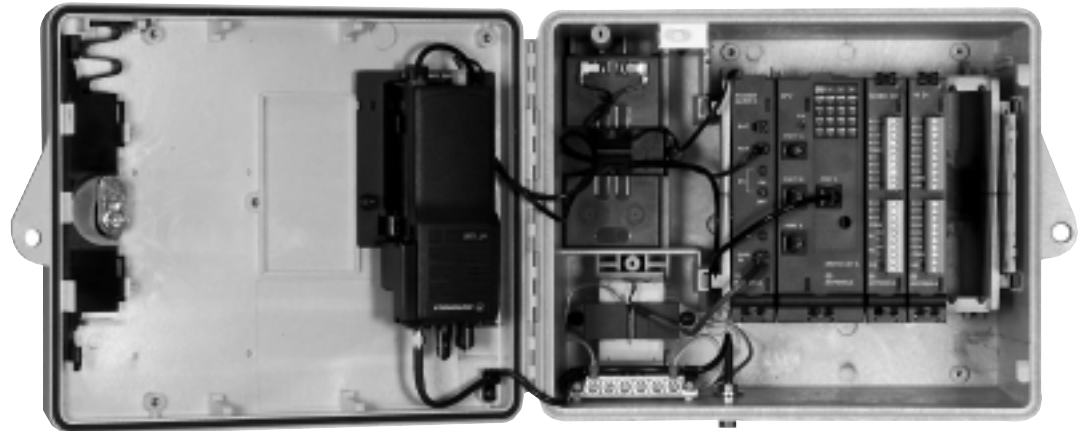


**MOSCAD-L
SCADA Remote
Terminal Unit**



MOSCAD-L provides the most asked for features of MOSCAD in a smaller and leaner package for use in locations where space is limited.



MOSCAD-L IS SMALLER

The size of MOSCAD-L is noticeably smaller than the equivalent full MOSCAD. The available enclosure meets the requirements of NEMA-4X for use indoors or outdoors in mild corrosive environments.

MOSCAD-L may be easily installed in many space restricted locations. Mounting options are available for wall or pole mount situations, and MOSCAD-L is small enough to fit with other equipment in many enclosures provided by others.

MOSCAD-L PROVIDES COMMUNICATIONS

Both MOSCAD-L and MOSCAD use the MDLC communication protocol which is based on the International Standards Organization's 7-layer protocol recommendation. Messaging, both RTU-initiated and poll response, may occur to a central system management site or peer-to-peer between any RTUs

(Remote Terminal Units) in the system.

Communications may occur on popular two-way radio frequencies or by wireline or fiber optic modems.

MOSCAD-L provides the communication task, so important in distributed-intelligence automation systems. There is no add-on communication package to locate and integrate.

RTU-initiated messaging virtually eliminates any need for continuous polling to transfer information RTU-to-central – the RTU sends data only when something noteworthy occurs on-site. MOSCAD-L may operate on radio channels that are shared by other users, including voice users.

MOSCAD-L and MOSCAD may exchange data among each other. MOSCAD-L may be added to, and be a full member of, existing MOSCAD systems.

MOSCAD-L IS LEANER

The commonly used I/O capabilities of MOSCAD, including RS-232 and RS-485, are available with MOSCAD-L. Advanced technology is used to provide these capabilities at lower operating power requirements.

When the situation requires advanced performance at low power burdens, MOSCAD-L may be the solution. Solar or LP-powered sites may particularly benefit from this capability.

MOSCAD-L IS PROGRAMMABLE

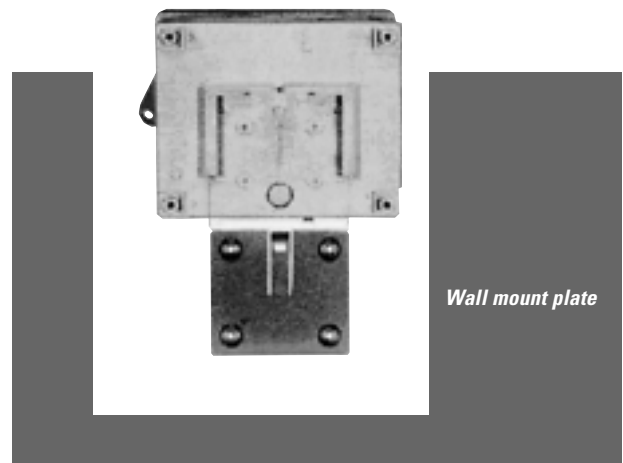
The specific automation solution to the system requirement may be programmed into MOSCAD-L. The same application already developed for MOSCAD may be used in MOSCAD-L if the I/O requirement can also be satisfied.

Automation solutions may be tailored to satisfy specific customer requirements. Programming is accomplished by using an advanced version of tried-and-proven ladder logic, complemented by "C" functions. It is supported by the MOSCAD-L Programming ToolBox.

INTERNET PROTOCOL (IP) CONNECTIVITY

IP is the most popular protocol for data communications. Ethernet 10 Mbps add on port is available within MOSCAD-L or externally (via RS-232 port)

Rear view of enclosure showing optional wall/pole mount plate; it is attached to the mounting surface before the enclosure slides and locks onto the plate.



GENERAL SPECIFICATIONS

Power Supply Module

Input Voltage:	From included 117 Vac (nominal) line transformer; 230 Vac line transformer optional Interface to external 20-28 Vac/21-50 Vdc power source and to solar panel/regulator optional
Output Voltage/Current:	5 Vdc at 0.6 amp; 14.3 Vdc at 2.0 amp; 24 Vdc at 0.25 amp
Backup Battery:	1.2 Ah @ 12 Vdc (nominal); 3.0 Ah optional

CPU Module

Processor:	Motorola 68LC302 (16/32 bit) CMOS; 16.6 MHz clock
Memory:	2048 kB Flash for operating system and application, 1024 kB RAM
Application Size:	Approximately ??? kB
Clock:	Software clock; year, month, day, hour, minute, second supported
Communication Ports:	Port 1: RS-485 2-wire multidrop or RS-232 (no handshake); up to 57.6 kbps Port 2: RS-232 with full DTE/DCE support; up to 57.6 kbps 1200 bps DPSK to internal or external radio, <i>or</i> Port 3: 2400 bps FSK to internal or external radio, <i>or</i> 4800 bps DFM to external radio, <i>or</i> 9600 bps Duo-Binary to internal or External radio, <i>or</i> 600 bps Intrac to internal or external radio, <i>or</i> 1200 bps or 2400 bps wireline modem, <i>or</i> RS-232 Sync or Async; up to 57.6 kbps, <i>or</i> Ethernet; 10 Mbps

I/O Modules

16 Digital Input:	see catalog sheet R3-11-1013
16 Digital Input 110V:	see catalog sheet R3-11-1040
8 Digital Output:	see catalog sheet R3-11-1029
6 Analog Output:	see catalog sheet R3-11-1030
Mixed I/O:	see catalog sheet R3-11-1014
24 Digital Input / 8 Digital Output (FET):	see catalog sheet R3-11-2008
8 Digital output (FET):	see catalog sheet R3-11-2003
16 Digital output (FET):	see catalog sheet R3-11-2006

COMMUNICATION MEDIA

Wireline Modems

PSTN:	600-2400 bps dial-up/answer; full-duplex
Leased Line:	300-2400 bps 2-wire or 4-wire full-duplex
Multidrop:	1200 bps 2-wire half-duplex

Two-Way Radio

Conventional:	136-174 MHz @ 5 watt (variable to 1.2 watt) power output 403-470, 470-512 MHz @ 4 watt (variable to 1.2 watt) power output 928-960 MHz @ 5 watt multiple access system
Trunked:	806-869 MHz @ 3 watt (variable to 1.2 watt) power output Refer to the MOSCAD-L System Planner for FCC Type Acceptance information

External Radio

Interface:	5 wire (data in, data out, PTT, channel monitor, ground) <i>or</i> 4 wire (audio in, audio out, PTT, ground)
Emission:	F1 (DFM) or F3 (FSK, DPSK or Intrac)

RS-232

Interface:	7 wire DTE/DCE (data in, data out, CTS, RTS, DTR, CD, gnd); 0.6-57.6 kbps
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Ethernet

Interface:	10 BaseT
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MOTOROLA

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