PEEK Intersection

LMD 9200 Controller

Menu Driven Actuated Traffic Controller

Traffic Control

The LMD-9200 is a 2-8 phase fully actuated NEMA TS-1 controller unit that can be used in isolated, interconnected, or closed loop system applications. The controller meets or exceeds the requirements of NEMA TS-1, 1989 standards.

The LMD-9200 can be programmed for a variety of sequences, including single and dual ring. Dual ring phase pairs can be reversed during specified cycle/split combinations for pattern related lead/lag operation.

Time base coordination and preemption is standard in all units. However, an optional I/O module (MSD) is available, making the unit fully downward compatible with existing LMD-8000 controllers.

The LMD-9200 provides several I/O (input/output) select modes that conform to the NEMA TS-1 standards. These standards use MSA, B, and C as cabinet interfaces. In addition to the selectable I/O (input/output) select modes, the LMD-9200's functions can be mapped to any physical input or output (pin), offering complete I/O flexibility. This includes compatibility for use with existing TS-1 cabinets.

Features

The LMD series controllers features a menu-driven format with a keyboard and a 40 column by 4 row liquid crystal display.

The front panel swings down for easy access. A removable information memory card is provided, which stores all programmed data and real time information. The controllers data and configuration settings are battery backed-up on the card, so it can be removed from one unit and placed in another, effectively transferring all data, time of day and date information to another controller.

The LMD9200 is capable of direct dial (ext. modem) or system operation using communications over a 2 pair TDM FSK voice grade or fiber optic link.

Additionally, the communications module (standard FSK or fiber-optic) allows the LMD9200 to be used in CLMATS and IQ Central traffic management systems.

The LMD-9200 is easily programmed using menu format procedures, context sensitive help screens, and time saving onboard intersection plans. The run mode displays are rich in descriptive stats information, including phase and interval status, coordination status, input/output status, communication status, etc.

The LMD-9200 can interface with DDMMU event logging conflict monitors to allow remote uploads of time stamped monitor message logs. These provide specific information on monitor initiated intersection failures, as well as other significant events. Using either CLMATS or IQ Central, the unit can be programmed via a null modem cable.

Specifications

Property	Description
Power	95 to 135 VAC, 60 Hz
Temperature Range	-30°F to +165°F (-34°C to +74°C)
Dimensions	10.5"H × 12.75"W × 9"D (267mm × 324mm × 229mm)
Display	40 column by 4 row ASCII character display w/backlighting
I/O Interface	User programmable, conforms to TS-1. Additionally, any function can be assigned to any connector pin.
Coordination	32 timing plans, each with its own cycle length and 1 of 5 offsets
SCM (Subordinated Coordination Mode)	Allows over-timing of phases (e.g. due to peds) without skipping or short-timing other phases
Offset Seeking	Variable dwell, Shortway, Interrupter
Detectors	64 phase assignable w/switching, stretch, delay, and disconnect
Detector Simulation	Simulated detector counts, including settings for volume, saturation, input pulse width, associated phase, and queue count before input is continuously on
Preemption	6 high priority and 6 low priority keyboard-programmable plans
Internal Clock	Time of day/day of month/month of year, 99 year clock, DLS time base coordination with 4 methods of sync referencing 200 events, 15 day programs, 10 week programs, 35 exception days, internal clock control of over 140 functions
Automax	Provides dynamic extension of max timers and Max Extend based on demand
Alternate Sequences (Lead/Lag rotation)	Selectively (by C/S/O or clock) reverses phase pairs
Service Plans (TOD or CSO selectable)	8 plans include MGR, PSG, WLK, PCL, and Recall Status
Max Plans (TOD or CSO selectable)	8 plans include normal and fail max timing for each phase
Removeable Information Management Card	Stores programming and real-time data
Overlaps	Up to 12 overlaps, keyboard programmable
Direct Dial Capability	Unit can communicate through phone system without a master
Closed-Loop Operation	Standard FSK comm. module transmits at up to 9600 baud over voice-grade Bell 202 wire. Fiberoptic module transmits at speeds up to 9600 baud at 850nm (wavelength) over fiber optic cable.
Data Transfer & Printout	RS-232 port standard with all units
Cycle-Based Measure of Effectiveness	Provides reports on volume, occupancy, speed, utilization, etc.
Internal Diagnostics	Standard tests: RAM, ROM, EEPROM, clock, keyboard, & I/O

Ordering Information

Base Model: LMD92UVW-XYZ, where 'UVW' and 'XYZ' are:

U = Aux I/O	V = Comm Module	W = Mode
0 = None	0 = None	A = Actuated
1 = Std. MSD	1 = RS-232, FSK	P = Pre-timed
2 = Metal MSD	2 = 15 pin comm., Fiber	
	5 = Latching Blocks	

X = Software	Y = I/O module	Z = reserved
1 = TS-1 TCT Comm	1 = No O/L card w/sliding lock	
4 = TS-2 MIST Comm	2 = No O/L card w/latching blocks	
5 = Reserved	3 = O/L card w/sliding lock	
	4 = O/L card w/latching blocks	

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