

Naztec Version 50 Software

TS-1, TS-2, 170E, 2070N

Training Unit 1 Basic Features



HARDWARE FEATURES

- Meets or exceeds NEMA TS-1 and TS-2 specifications
- Socket mounted IC's for easy servicing
- Program and data memory stored in EEPROM (no chips to pull and reprogram)
- Data module option allows data transfer to new machine without downloading data through the serial port
- 20 position keypad with audible feedback
- Backlit 4x40 character, temperature compensated LCD screen
- Real-time clock is accurate to within 0.005% over a 24 hour period



ENVIRONMENTAL SPECIFICATION

- Naztec controllers function properly over the full NEMA range from -30°F to $+165^{\circ}\text{F}$, at 95% non-condensing humidity
- Naztec controllers operate over an input voltage range of 89 Volts AC to 135 Volts AC, 60Hz.



VERSION 50 SOFTWARE

- Unified software platform for TS2, 970 (170E compatible) and 2070 hardware platforms
- 16 phases (each phase can be mapped to any of the 24 available channel outputs)
- 16 overlaps (each overlap can be mapped to any of the 24 available channel outputs)
- 64 detector inputs (TS-2 type 1) / 24 detector inputs (TS-2 type 1)
- Fully NTCIP database compliant
- Enhanced configuration modes (i.e. Diamond Interchange operation)
- Built-in diagnostic routines



ACTUATED CONTROL FEATURES

- 16 Phases, 4 timing rings
- NEMA TS1, TS2 standard timing
- Call redirection & inhibiting per phase
- Dynamic max times based on volume or density
- 24 channels of output on A-B-C connectors
- Dimming selectable by color & half cycle
- Flash selectable by color & hertz
- Map-able control source per channel
- 16 programmable overlaps



COORDINATION FEATURES

- 2 types of NTCIP coordination modes, fixed and floating force-offs
- 7 types of Naztec coordination plus modes
- 5 optional modes of walk recycle during coordination
- External coordination I/O
- Critical Intersection Control (CIC) dynamic coordination patterns
- 48 possible patterns with unique cycle, offset, split times and sequence patterns
- Programmable transition percentages for fast and slow modes
- Selectable coordination point (Begin or End Green time) of coordinated phase
- 24 programmable sets of split times
- Coordination status displays
- Manual pattern enable, including flash and free selections



PREEMPTION FEATURES

- 6 selectable fire or rail preempt programs
- 4 selectable transit programs
- Coordination during preempt
- Programmable minimum and delay times



TIME-OF-DAY FEATURES

- 24 programmable day plans selected by time of day
- 100 action plans selecting a pattern, 3 possible auxiliary functions, 8 special outputs
- Automatic daylight savings time change
- Day plan copy function
- Manual control screen
- Programmable real time clock
- Naztec "Easy" scheduler for faster time of day entries
- 48 possible time of day patterns that select alternate timing, phase options, and detector maps



DETECTION FEATURES

- 64 channels of detection (each channel has selectable hardware source)
- Multiple stop bar modes
- Three activity diagnostics per channel
- Alternate detector setup selectable by time of day
- Call, extend, queue, yellow/red locking & added initial per detector
- Switch phase detectors
- Delay inhibit phases
- Volume/occupancy report with dynamic reporting periods
- Red, yellow, green, or combination occupancy per channel



COMMUNICATION FEATURES

- Programmable central system port that can communicate up to 57.6 Kbaud
- Programmable system downlink port that can communicate up to 57.6 Kbaud
- TS2 SDLC port for internal cabinet I/O control when in full or part TS2 mode
- PC/Print port to allow for diagnostic testing without disconnecting the controller from the system
- Optional Frequency Shift Keyed (FSK) internal hardwire modem port up to 9600 baud
- Auxiliary RS232 port for communications to conflict monitor, detector rack, temp alert, etc.



DIAGNOSTIC TESTS

- RAM test diagnostics
- ROM test diagnostics
- Communication port test diagnostics
- Connector test diagnostics
- All 64 detectors support TS2 type detector diagnostics (constant call, no call or chattering detectors)
- The 8 ped detector inputs support similar diagnostics (constant call, no call or chattering detectors)



REPORT GENERATION

- Volume/occupancy sampling any of the 64 detectors
- Detector diagnostic failures are stored as occupancy data
- On board real time sample status screen
- Local events time and date stamp specified alarms
- Pattern changes can be stored as local events
- Preempt activations can be stored as events
- Local events can be polled by central to retrieve specified alarms
- Isolated intersections that are not polled can forward alarms to central



REAL-TIME STATUS DISPLAYS

- Real time status for controller timing and operation
- Real time status for coordination modes and local/cycle counters
- Real time status for active alarms
- Communication port status screens
- Lamp monitor status screens
- Overlap status screen
- Easy calculation screen to show force and yield points based on programmed split times
- Controller overview status screen
- Detector frequency status display
- Phase input and inhibit real time status display

