

CLARKE®

New Touch Screen Panel Redefines Control and Clarity in Fire Protection

Clarke is committed to fire pump engine technology innovation. The manufacturer's next evolution in fire pump engine management is the TSP series touch screen panels which bring modern design and functionality to a critical safety system. Operators and installers alike can expect enhanced usability, accuracy and reliability.



Challenges of the Old Standards

The new touch screen panels are designed to replace the previous distinct panel designs for mechanical and electronic engines. Mechanical engines came equipped with the Mechanical Engine Control Alarm Board (MECAB). Electronic engines could be equipped with variations of the PowerView electronic instrument panel series.

The MECAB instrument panel system had analog gauges which posed limitations, including:

Variations

- MECAB had over a dozen variations that were each tailored to different configurations and regions.
- Different variations made for lack of consistency in assembly, testing and maintenance.

Complex Testing Procedures

- The time-intensive setup required mechanical manipulation and physical switches.
- No standardized on-screen guidance, leaving operators dependent on experience or documentation to complete basic verification or startup routines.
- Technicians had to manually activate tests, interpret results through blinking lights and cross-reference codes with a manual.

Limited Feedback and Visibility

- Single-color indicators required deep familiarity with the system and could only be handled by trained professionals.
- No digital readouts, emissions feedback or alarm text led to potential misinterpretations of low oil pressure or overtemperature, leading to more serious issues.
- Operators needed deep familiarity with system behavior to distinguish between normal fluctuations and warning conditions.

Installation and Wiring Complexity

- Screw-down DIN rail connectors were prone to miswiring or loosening over time, leading to panel damage, commissioning delays or false fault signals.
- Each variant of the MECAB had its own wiring layout, forcing installers to navigate a maze of small but important differences.

Maintenance and Training Burdens

- Required specialized training to interpret blink codes and test conditions.
- Limited built-in diagnostics or accessible data for troubleshooting.
- Technicians had to memorize or reference blink codes and test sequences, extending downtime and complicating repairs.

The Power View electronic instrument panels enabled operators to view operating conditions and diagnostic trouble codes (DTCs). However, these PowerView systems have their own issues:

- Easier to test than the MECAB but are still complicated. Only authorized service personnel can perform maintenance or service with the panels.
- Limited on-screen visual indications that a test is being run.
- Operators have to manually toggle a switch inside the panel in order to run certain alarm verification tests.

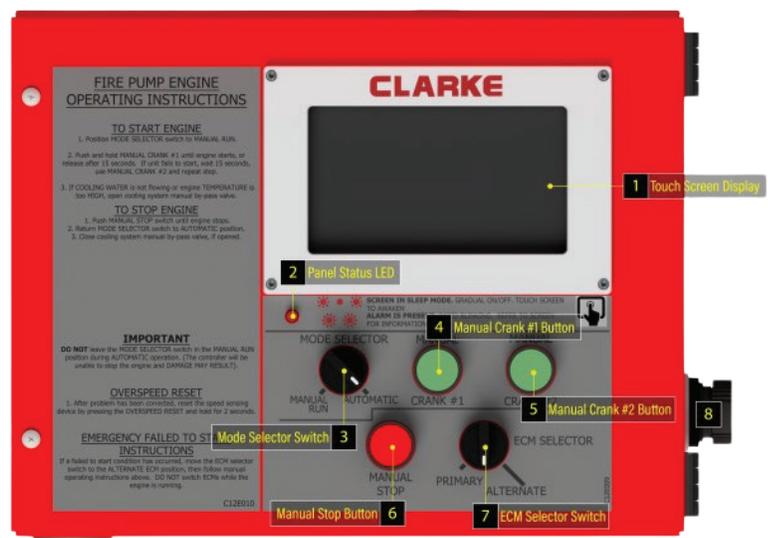
Designing a New Touch Screen Panel

The ground-up redesign of the engine control panel was initiated in 2020 with the pioneering spirit that's driven Clarke for decades. The goal was to overcome the challenges that the MECAB, PV101 and PV380 posed for operators and create one standard shared platform for mechanical and electronic fire pump engines. This new touch screen panel would be modern without sacrificing reliability, simplicity or cost-effectiveness.

Clarke rolled out the new touch screen panels over 24 months:

- TSP-M for mechanical engines released at the beginning of 2023
- TSP-E for electronic engines released throughout 2024 and 2025

Both were designed for backward compatibility and built to exceed the demanding standards of modern fire protection systems.



Benefits of TSP Series

Clarke's new touch screen panels provide a fresh look but similar functionality to the original mechanical and electronic engine gauge panels.

Simplified, Intuitive User Experience



Touch screen panel features tachometer, hour meter, oil pressure, coolant temperature, raw water temperature, battery 1 and 2 voltmeters, date and time, ambient temperature and manual/automatic mode status.



One-touch verification and testing for commissioning – no more mechanical test switches or jumper wires.



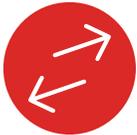
Automated 30-second verification cycles with visual confirmation of status and progress.



Display with highly visible engine status and alarm indications.



On-screen prompts for procedures, alarm verification and calibration.



Dual analog/digital display allows users to see both real-time data and color-coded performance and warning indicators.



Bright, color touch interface (7" full color) replaces black-and-white gauges, enabling faster recognition of alerts.



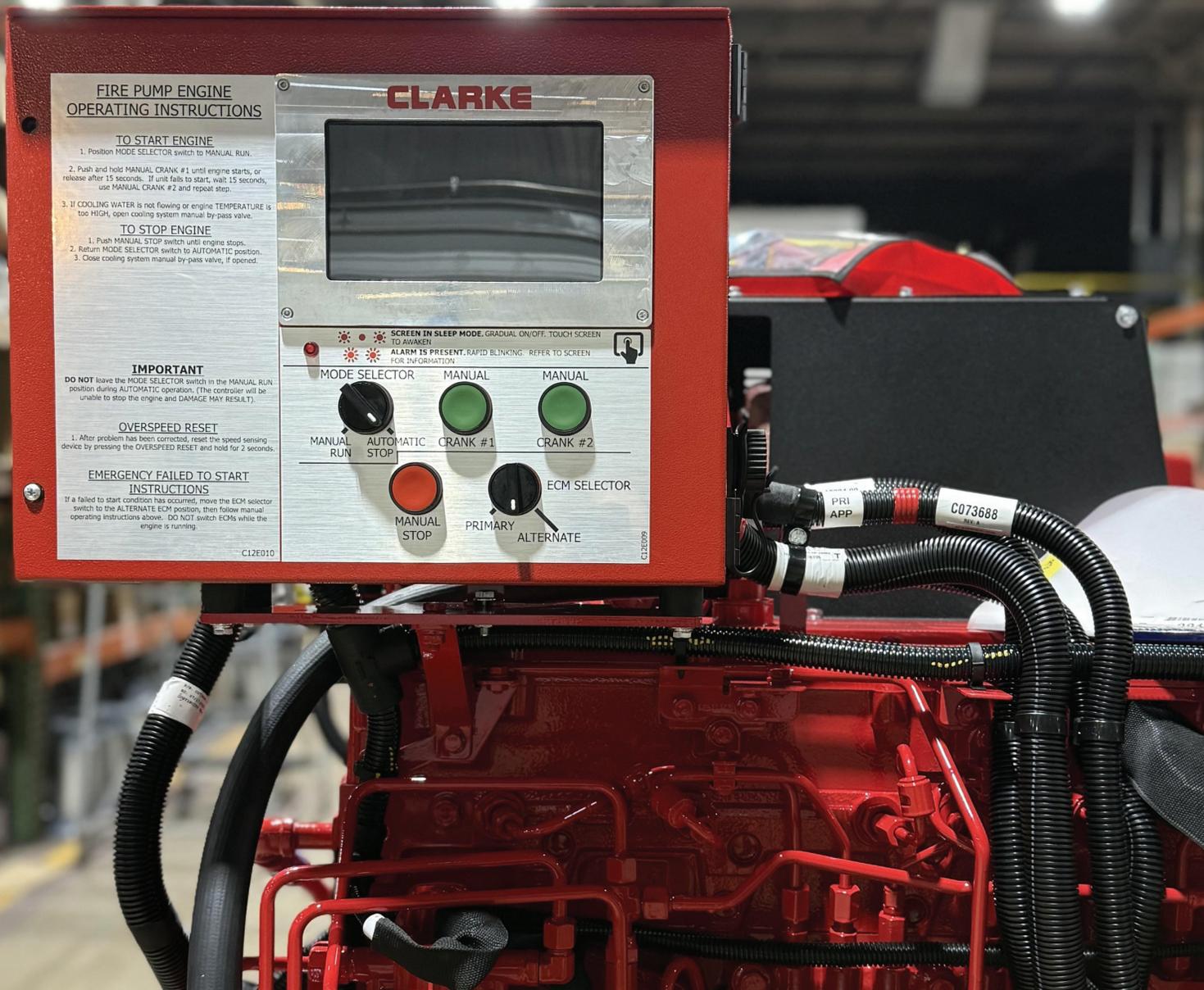
Operators now see plain-language fault messages that indicate exact fault conditions ("Low Oil Pressure") instead of coded LED blinks, allowing immediate action.

Enhanced Data Visibility and Accuracy

- Precise digital readings eliminate the guesswork of analog needles.
- Data extraction and logging capabilities (via USB) provide traceable performance history for maintenance and compliance.
- Real-time diagnostics for engine performance, including speed, oil pressure, coolant temperature and battery voltage.

Streamlined Installation and Service

- Spring-loaded terminal blocks allow fast, tool-free wiring that drastically reduces setup time and error potential.
- Self-resetting circuit breakers prevent costly field damage from wiring mistakes.
- Built-in access for service dealers supports PLD pressure gauge adjustments without external tools.
- Easier field connections to fire control panel and dedicated wiring entrance plug allows 1" (25mm) conduit fitting.
- Labeled terminal block with lever actuated spring cage connections.

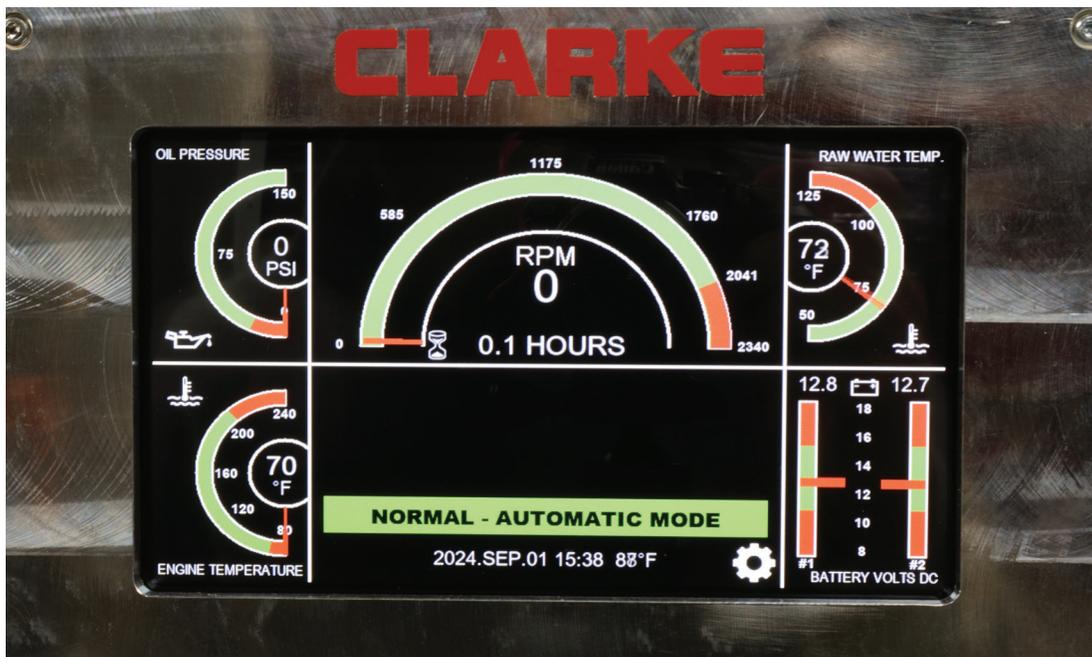


Robust, Environment-Ready Design

- Complies with UL 50/50E and NEMA Type 4 test requirements of flame and impact resistance, provides a degree of protection against hose directed water and ingress of foreign objects.
- Meets all requirements of UL 1247, FM 1333 and NFPA 20.
- Constructed with an IP66 rated enclosure that resists dust and water intrusion.
- Optional NEMA 4X stainless-steel enclosure available for corrosion-resistant applications (e.g. coastal or humid environments).
- Front hinged door for easy access to inside with full perimeter gasket.
- Tested for electromagnetic compatibility per CISPR 11 and is for use in non-hazardous, unclassified areas.
- Rated for operation up to 50°C and durability in demanding pump room environments.

Global Accessibility and Usability

- Dual-language starting instructions on the front plate.
- On-screen menu available in English, Spanish, French and German.
- Adjustable pressure (PSI/bar/kPa) and temperature (°F/°C) units accommodate global compatibility.
- User settings also include time/date configuration and screen brightness controls.
- TSP-E features soft start option during engine start-up.



Safety



Completely offline with no internet or Bluetooth connectivity adds layer of cybersecurity.



Factory-programmed software eliminates risks of tampering or hacking.



Meets UL 1247 and FM 1333 certification requirements for enclosure safety and operational reliability.

Customer Reaction

Customer feedback for the new touch screen panels has been overwhelmingly positive. Installers appreciate how much faster and cleaner the wiring process is. Operators value the clarity of visual feedback and ease of testing.

Users have noted that the new touch screen makes it “so easy to test and verify the system” and that “the field wiring time has been halved.” Many also highlight the sleek, modern, professional appearance and quality while delivering clear, actionable information.

Clarke’s reputation for reliability remains intact with the added advantage of modern user experience design.



Clarke is forever focused on innovation. Now they have touch screen panels for their engines, which makes it easy for us to perform maintenance, run weekly tests, or review data. I think this innovation is very efficient for the final customer.



—Kimbery Sánchez,
Fire Specialist en Michelin Planta León

Backward Compatibility and Service Support

Clarke's engineering team ensured that the new panels could be adopted without disruption to existing systems. Both TSP-E and TSP-M models are designed for seamless integration with most Clarke fire pump engines currently in service.

Backward Compatibility:

- Retrofitted options may be possible, including new wiring harnesses and sensors. Contact Clarke's Customer Support Group to confirm retrofit compatibility: parts@clarkefire.com
- Electronic engines feature a simple menu setting for legacy or production compatibility.

Training & Support:



Clarke's in-house training team and detailed instruction manuals make for simple adoption.



Each panel includes clear labels and intuitive interface prompts to guide users through operations and tests.

Critical Systems Guaranteed to Perform When It Matters Most

Clarke's upgrade to the TSP series is a fundamental leap forward in safety, efficiency and operator confidence. The The TSP-M (for Mechanical engines) and TSP-E (for Electronic engines) panels embody Clarke's commitment to the technical requirements of modern fire protection and empowering the people who rely on them.

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C010883 Rev A
10Feb26

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