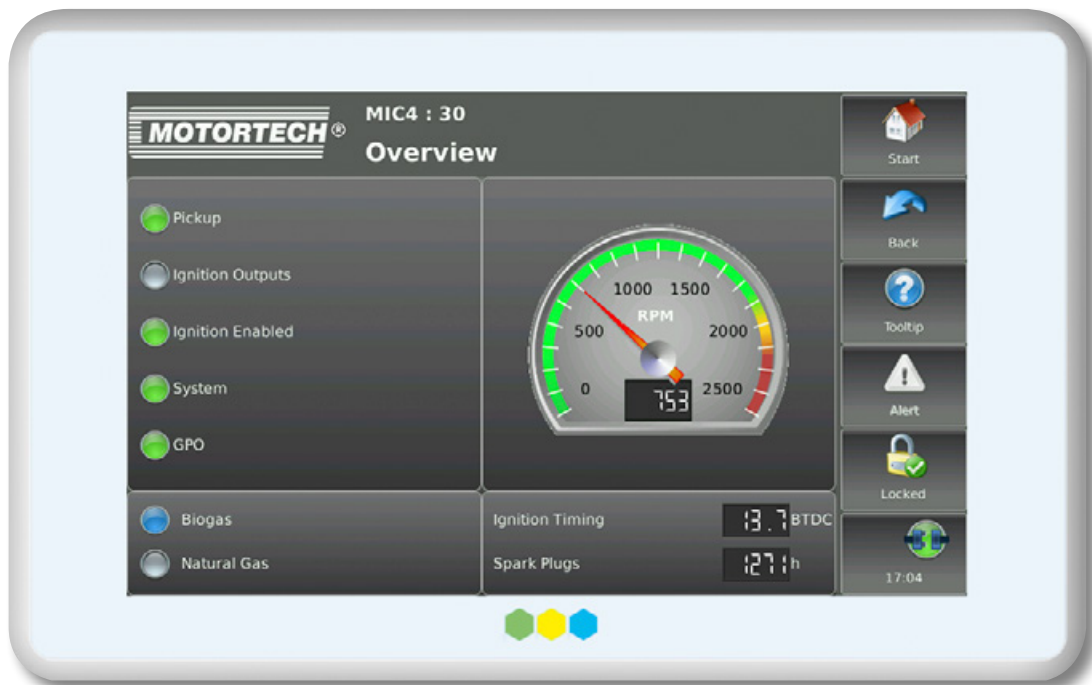


PowerView3 – HMI Module

Visualization of Ignition, Detonation and Temperature Control



PowerView3 – HMI Module

PowerView3

MOTORTECH ENGINE INFORMATION MONITOR

PowerView3 is a compact and flexible HMI module (Human-Machine-Interface) for visualization and operation of MOTORTECH's new generation control units. On more than 25 screens the 7" color display supports the full visualization of the most important operating data of ignition, detonation and temperature control as well as the adjustment of various parameters.

Error diagnostics can be executed easily on-site without requiring a laptop. The touchscreen guarantees an intuitive navigation through different display pages and menus. The relevant operating data can be easily recorded and stored via USB mass storage device or included SDHC card. The visualization functions have to be activated for every single device. Additional activations or firmware updates are possible at any time.



General Features

- Visualization of ignition, detonation and temperature control via CAN bus
- Access control
- Display of CAN connection status
- Several display configurations (languages, date, display calibration, etc.)
- For assembly in control panels
- Day and night mode
- CSA® certified (Class I, Div. 2, Group C, D; T4)

Detonation Control (DetCon2/DetCon20)

- Overview with status indication for
 - Analog output signal
 - Knocking intensity
 - State of reduction
- Fault message for
 - Low speed
 - Synchronizing pulse
 - Defective knock sensor
- Display of trend data
 - Knocking intensity
 - Output signal
- Display of knocking intensity

Ignition Control (MIC3+/MIC4/MIC5 series)

- Overview with status indication for
 - Pickup signals
 - Active schedule
 - Analog display of engine speed
 - Ignition timing
 - Spark plugs (operating hours)
- Display of global ignition timing dependent on
 - Base ignition timing
 - Potentiometer adjustment
 - Analog current and voltage input
 - Speed curve
- Displays the ignition of each cylinder
 - Ignition voltage
 - Misfires
- Display of misfires
 - Primary and secondary sided wiring errors
 - Type of error (no connection/short circuit)
- Display and adjustment of energy
 - Spark duration
 - Spark intensity
- Display and adjustment of firing angles and ignition energy
- Self-test activation
- Warning, alarm and error messages

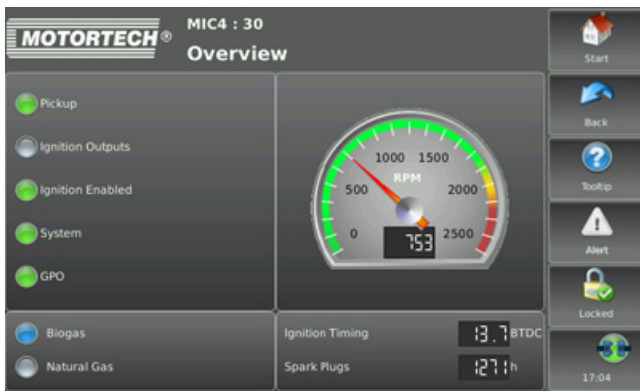
Temperature Control (TempScan20)

- Overview of temperature information
 - Temperature monitoring for up to 20 thermocouples
 - Independent configurable channels for B, E, J, K, N, R, S or T type thermocouples
 - Adjustable temperature ranges
- Temperature information for different applications
 - Exhaust temperature
 - Winding temperature
 - Fluid temperature
- Warning and alarm messages
 - Warning messages for low and high temperatures
 - Shutdown alarm for high high temperatures
 - Configurable limits for low, high and high high temperatures
- Control and monitor sensor channels
 - User defined sensor name types and tags
 - Up to 4 separate groups with function selectable configuration

■ Ignition Control Visualization

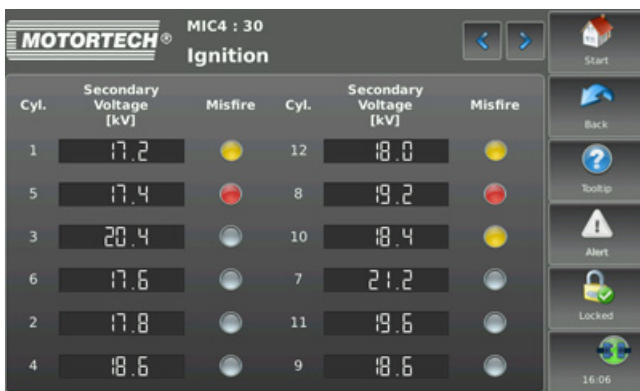
Sample Screens – MIC3+/MIC4/MIC5

MIC Overview



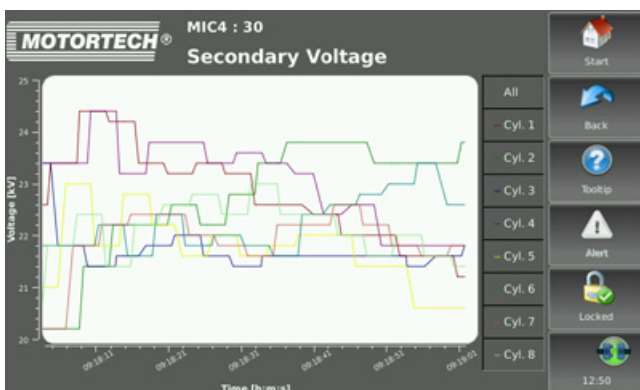
- Status displays (pickup, ignition outputs, ignition enabled, system status, schedule)
- Displays the current engine speed
- Shows the current global ignition timing in ° crankshaft
- Displays the previous operating hours of the spark plugs

Ignition



- Displays the estimated ignition voltage for each individual cylinder
- Display of current and past misfires of each individual cylinder

Secondary Voltage



- Display of estimated secondary voltage of all selected cylinders
- Cylinders can be displayed and hidden individually
- Zoom function for detailed view of secondary voltage
- Navigation within the timeline

■ Detonation Control Visualization

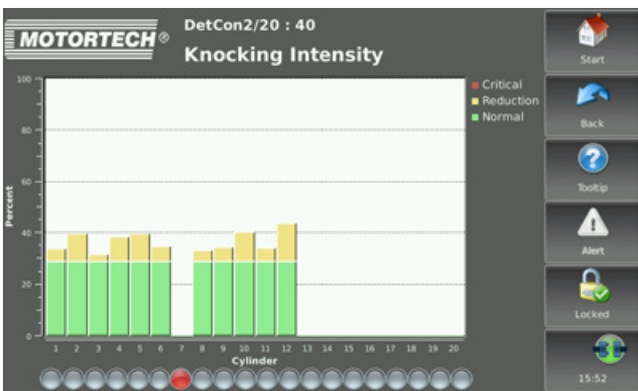
Sample Screens – DetCon2/ DetCon20

DetCon Overview



- Status displays (engine knocking, active load reduction, emergency shutdown, signal errors)
- Displays the analog output signal strength
- Displays the knocking intensity in percent
- Display of sensor errors

Knocking Intensity



- Display of knocking intensity for each cylinder
 - Green: The detonation control does not register any excessive knocking intensity
 - Yellow: Detonation control reduces knocking
 - Red: Critical engine state
- Additional status display for sensor errors at the cylinder

Trend Knocking Intensity

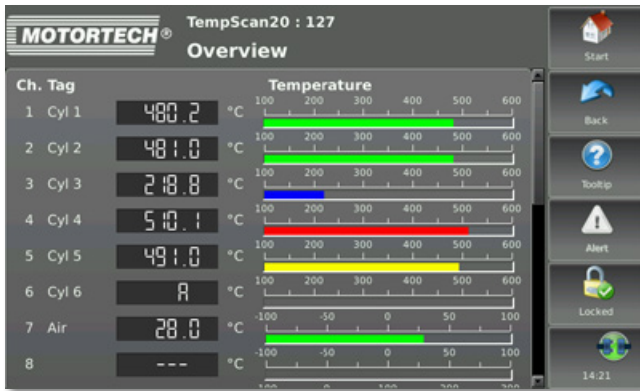


- Shows the knocking intensity progress of all selected cylinders
- Cylinders can be displayed and hidden individually
- Zoom function for detailed view of knocking intensity
- Navigation within the timeline

Temperature Control Visualization

Sample Screens – TempScan20

TempScan Overview



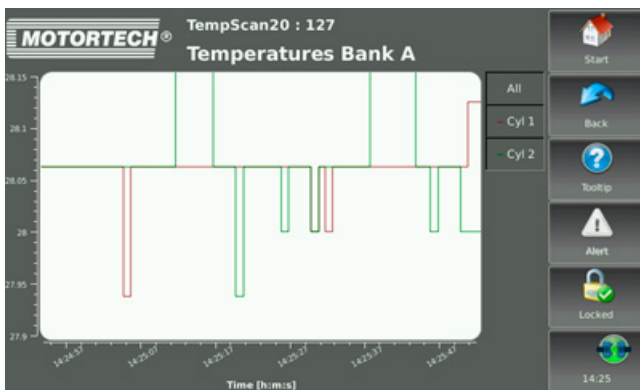
- Displays the measured temperatures of the connected sensors
- Multilevel temperature visualization
 - Green: Temperature is within the permitted range
 - Blue: Temperature has dropped below the lower warning threshold (low)
 - Yellow: Upper warning threshold has been exceeded (high)
 - Red: Upper shutdown threshold has been exceeded (high high)
- View of configured channels and failed sensors
- Display of channel numbers and user specified sensor names
- Adjustable display for groups

Channel Settings



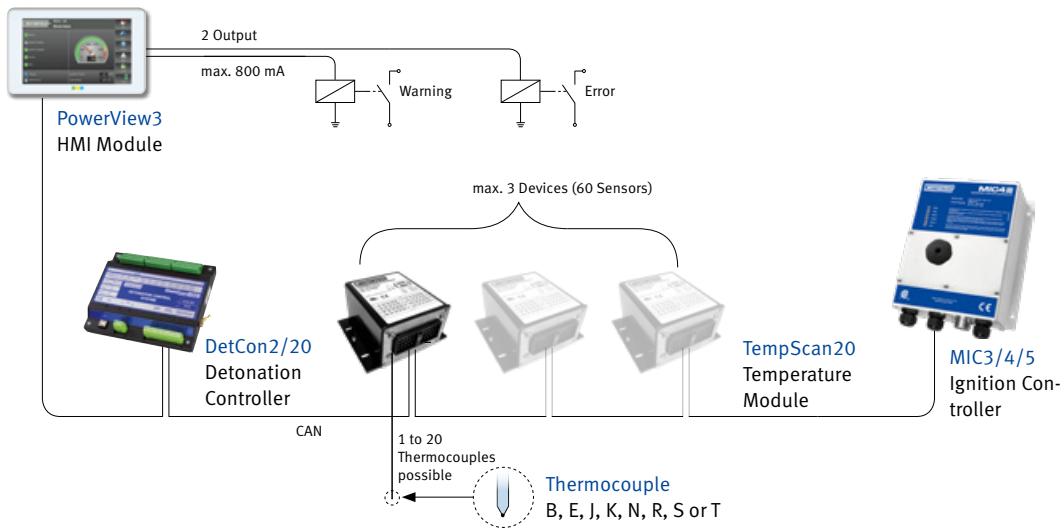
- User defined channel settings for each sensor
- Channel names, thermocouple type and temperature thresholds
- Groups setting; up to 4 groups for better classification and displays
- User defined limits for channel status

Temperature Diagram



- Shows the history data of all selected channels
- Channels can be displayed and hidden individually

System Overview & Ordering Information



Technical Data

Memory

- Memory SD card slot
- USB 2.0 port

Communication Interfaces

- Network: 100 Mbit/s Ethernet (POE)
- CAN fieldbus: 1x CAN (ISO/DIS 119898)

Touchscreen

- Colors: 16 bit (65.536 colors)
- Touch technology: resistive
- Surface properties: 3H/anti-glare
- Display size: 7.0 in./178.0 mm
- Resolution: WVGA (800 x 480 pixels)

Housing

- Metal parts: 1.4016 high quality steel, 0.03 in./0.75 mm
- Protection rating: IP20 (entire device), IP64 (device front)

Device Dimensions

- Width: 7.96 in./201.1 mm
- Height: 4.96 in./126.1 mm
- Depth: 1.16 in./29.5 mm
- Weight: 1.48 lbs/670 g

Power Supply

- Supply voltage: Nom. 12 to 24 V DC
- Current consumption: max. 7.0 W

Typical Environmental Conditions

- Storage temperature: -4 °F to 158 °F/ -20 °C to +70 °C
- Operation temperature: -32 °F to 140 °F/ 0 °C to +60 °C
- Relative humidity: max. 95 % (without condensation)

Ordering Information – How to Order for new Installations

P/N	Description
06.05.085	PowerView3 – HMI module
06.05.086-F	PowerView3 activation code for visualization of MIC3+/MIC4/MIC5 data. ¹⁾
06.05.087-F	PowerView3 activation code for visualization of DetCon2/DetCon20 data. ¹⁾
06.05.088-F	PowerView3 activation code for visualization of TempScan20 data. ¹⁾

¹⁾ Code has to be ordered separately with each PowerView3 HMI module. Factory activation will be done with delivery.

Ordering Information – How to Order for Upgrades of installed PowerView3 HMI Modules

P/N	Description
06.05.086-U	PowerView3 activation code for visualization of MIC3+/MIC4/MIC5 data. ²⁾
06.05.087-U	PowerView3 activation code for visualization of DetCon2/DetCon20 data. ²⁾
06.05.088-U	PowerView3 activation code for visualization of TempScan20 data. ²⁾

²⁾ Only available for upgrade of an installed PowerView3 HMI module in the field. Activation will be done on-site.

Product Overview



The new MOTORTECH Ignition Controller Platform

MOTORTECH's ignition controller platform is designed to meet the special needs of cutting edge industrial gas engines. Gas engines with up to 20 cylinders can be controlled efficiently and reliably. High adjustable ignition energies (MOST*), accurate spark timing and diversified online diagnostics help to improve engine efficiency, spark plug lifetime and availability of the equipment under the strictest emission regulations.

*Patented Technology



Temperature Module with 20 Channels

The TempScan20 temperature module monitors up to 20 thermocouples and provides the temperature information to the PowerView3 HMI module via CANopen.

- Channels are independently configurable as Type B, E, J, K, N, R, S or T thermocouples
- Temperature information can include
 - Exhaust temperature
 - Winding temperature
 - Fluid temperature
- No additional programming or configuration required
- Integral diagnostics determine thermocouple integrity
- All channels are fully isolated from the CAN line and from the power supply.
- The temperature module features rugged packaging and watertight connectors for an IP65 rating.

DetCon20 – Detonation Control

The DetCon20 control unit offers full protection for gas engines from 2 to 20 cylinders. Microprocessor controlled, it will detect any detonation in the early stage and will send an analog signal (4 to 20 mA/0 to 5 V) out to the ignition system to retard in a linear function. If detonation cannot be cured a signal will be send for load reduction and finally an engine STOP signal. CAN Bus interface included.

Download now!



All Products at a Glance!

For further Information about the MOTORTECH products get our product guide online.



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MOTORTECH GmbH

Hogrevestr. 21-23
29223 Celle
Germany
Phone: +49 (5141) 93 99 0
Fax: +49 (5141) 93 99 99
www.motortech.de
sales@motortech.de

MOTORTECH Americas, LLC

1400 Dealers Avenue, Suite A
New Orleans, LA 70123
USA
Phone: +1 (504) 355 4212
Fax: +1 (504) 355 4217
www.motortechamericas.com
info@motortechamericas.com

MOTORTECH Shanghai Co. Ltd.

Room 1018 Enterprise Square,
No. 228 Meiyuan Road,
Zhabei District, 200070 Shanghai
China
Phone: +86 (21) 6380 7338
www.motortechshanghai.com
info@motortechshanghai.com

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