

# FW MURPHY NATURAL GAS PRODUCTION CONTROLS



**FW MURPHY®**  
PRODUCTION CONTROLS





More than 75 years ago, FW Murphy products started with a simple idea – identify an unmet need in the industry and provide a reliable solution. Since then, our products have led the way in engine monitoring and protection solutions for oil and gas applications, including field gas gathering and gas transmission.

Our ever-expanding product breadth includes sophisticated engine control and monitoring systems, electronic and mechanical controls, custom-engineered control panels and systems, intelligent ignition control systems and air-fuel ratio controllers.

When it comes to equipment monitoring and control – trust our experts.

## We Are Innovators.

The tradition of innovation continues as we partner with customers to truly understand application needs and provide solutions focused around easy integration into complete systems. The integrated approach to equipment and engine management provides customers with advanced functionality, optimized performance and the reliability they expect from FW Murphy products.

## We Are Customer Driven.

Our solutions-based approach allows us to be the single source for all your equipment monitoring and control needs. We work directly with our customers to identify the exact application requirements and develop a complete system that is tailored to their needs. No more spec'ing out parts – let us do the work for you.

## Our Purpose - We Exist to Conquer Complexity.

Let us work with you to find the best solution for your application.

GRANTS PASS, OR  
APPLICATIONS ENGINEERING

TULSA, OK (EE.UU.)  
SALES/APPLICATION ENGINEERING

HOUSTON, TX (EE.UU.)  
MANUFACTURING

SAN LUIS POTOSÍ, MÉXICO  
VENTAS

SAN ANTONIO, TX (EE.UU.)  
CORPORATE HEADQUARTERS  
MANUFACTURING/SALES/R&D

HANGZHOU, CHINA  
MANUFACTURING/SALES

Tulsa, OK USA



Houston, TX USA



San Antonio, TX USA



Hangzhou, China





# ENGINE INTEGRATED CONTROL SYSTEM

## Engine Life Extended

The turnkey EICS® package allows you to quickly and easily bring your outdated engine up to speed. Get all the major components – ignition, air/fuel control and speed governing – in one complete package, precalibrated and dyno-tested for your convenience.

## Emissions Optimized

The available emissions package gives you the confidence to know that your equipment will remain in compliance and pass required testing. And because the entire system was designed to work together, you save time and money associated with pretesting and site visits.

## Diagnostics Simplified

The EICS package communicates with all the key components to quickly and accurately identify the original cause of a malfunction. Monitor vital engine information, like air/fuel control, ignition, sensors, emissions and more on the easy-to-read LCD display.

## Fuel Savings

In addition to these other benefits, utilizing this system can impact your bottom line. This system makes fuel go further – saving you money. Customers in some applications have reported savings of 20 percent to 30 percent in fuel and operating costs when moving to the EICS package.



The Control Systems & Services division has the expertise to provide the best solution for any control need. We work with clients to quickly identify critical needs and cost-effective solutions in a wide variety of control system applications, from basic annunciator shut-down panels to complex PLC-based systems. Let Control Systems & Services take your project from concept to completion. We offer project management, design and engineering, programming, testing, training and 24-hour technical support.



# COMPRESSOR CONTROL PANELS

## Application-Targeted Products

### VRU PRO™ CONTROL PANEL

- Specifically designed for tank battery vapor recovery compressors
- Comprehensive signal monitoring control with manual/automatic start
- Three-way PID monitoring of suction and discharge pressures and drive load

## Entry-Level Panels

### TTD™ ANNUNCIATOR PANEL

- Simple, easy-to-operate interface
- Monitors 48 user-configurable sensors
- Pre/post lube functionality and no-flow detection

## Mid-Level Panels

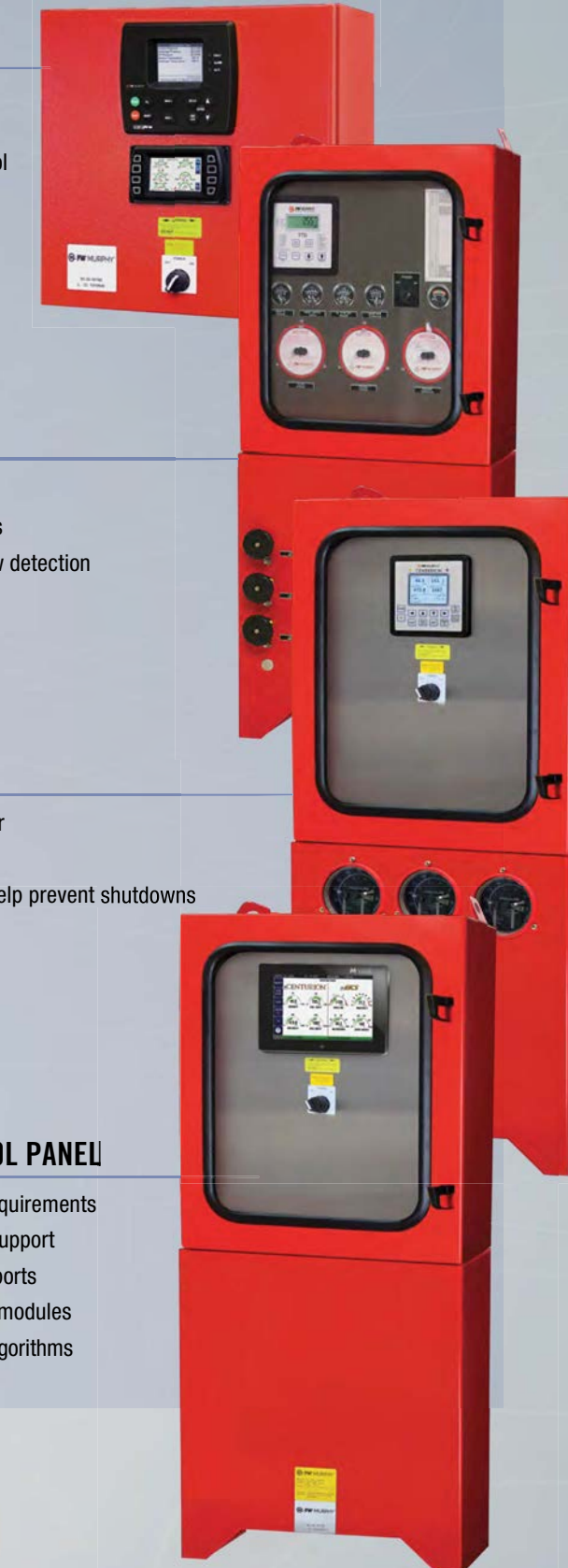
### CENTURION™ CONTROL PANEL

- Annunciator and compressor Controller
- Monitoring and shut-down features
- Auto-start and basic engine controls help prevent shutdowns
- PC configurable/USB compatible
- No programming experience required

## Custom Panels

### CENTURION™ CUSTOM CONTROL PANEL

- Custom programmed to meet exact requirements
- Complex valve logic and sequencing support
- Real-time data via two Rs485/Rs232 ports
- Expandable I/O up to three expansion modules
- Capable of complex calculations and algorithms



# CONTROLS AND INSTRUMENTATION

FW Murphy offers a wide range of instrumentation designed to monitor and control various aspects of compressors, pumps, generators and more. From pressure and temperature gages, fluid level maintainers, switches for vibration, time and overspeed to annunciators and magnetic switches, controllers, fuel and scrubber dump valves, we package solutions to fit your particular application needs.

For maximum integration, multiple FW Murphy products can be combined to create a complete solution to provide optimum performance and advanced functionality.

## Shock & Vibration Switches

Shock and Vibration Switches detect abnormal shock or excessive vibration due to equipment failure and provide automatic shutdown to prevent further damage. Connect the switches to the TTD™ or Centurion™ controllers for increased monitoring capabilities.

## Control & Monitoring Systems

FW Murphy's Control Systems monitor pressure, temperature, liquid level, overspeed, time and vibration. Multiple controller options are available, from simple start-and-stop controllers to sophisticated automation systems.

## Level Devices

Level devices help protect your engine-driven applications by providing an easy visual indication of low/high oil level, lubricant and coolant level. Visual indication allows operators to check engine fluid levels without shutting down the engine.

## Fuel Shut-Off Valve

Fuel Shut-Off Valves provide semiautomatic shutdown of natural gas fueled engines by opening manually and closing when the electromagnet is energized and trips the latch.



# EICS ENGINE INTEGRATED CONTROL SYSTEM

# CONTROLS AND INSTRUMENTATION



1. Full-Color Touch Screens



2. Color Display for Operation, Status and Diagnostics



3. Engine Control Module (ECM)



4. Air / Fuel Management D-EPR Direct-Acting Electronic Pressure Regulator



5. Smart Coil™ Instruments



6. Air / Fuel Management Mixer



7. Applications Key option, Emissions Key, Suction Control Key. Not included with EICS Performance Package



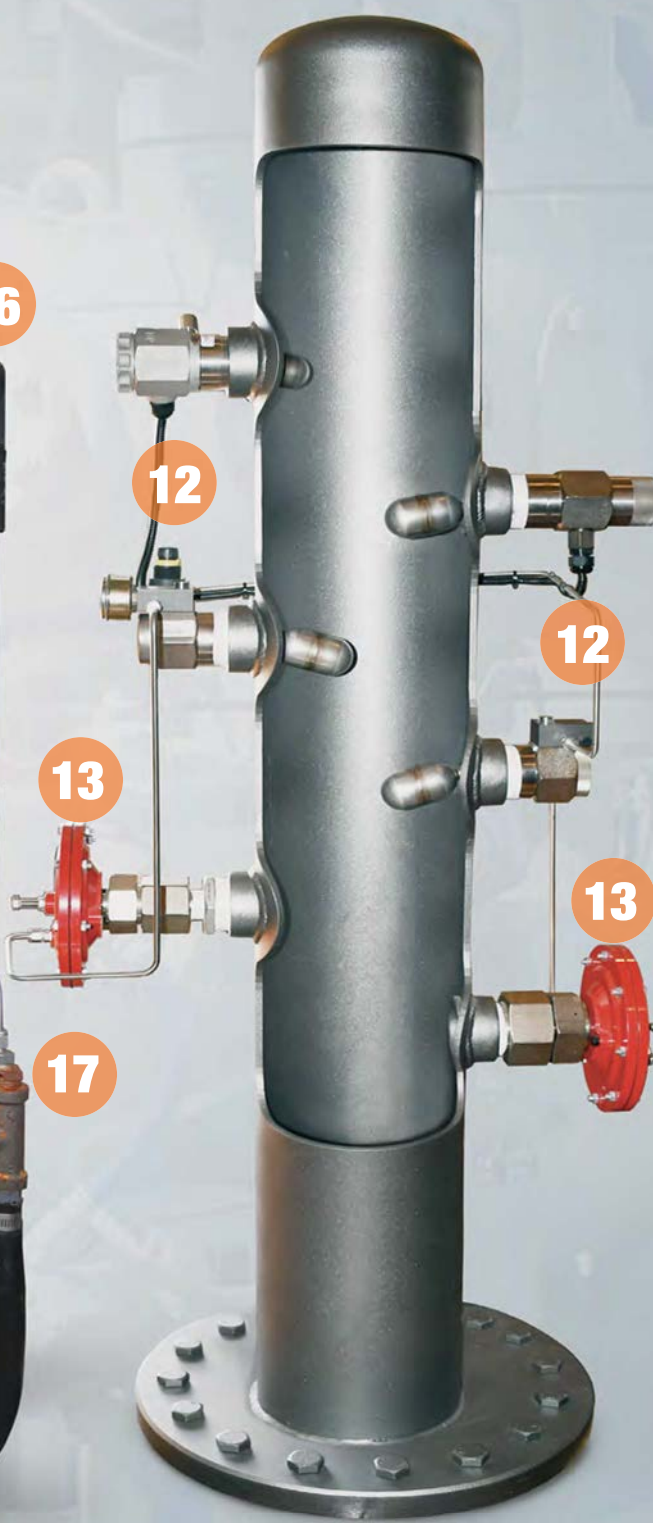
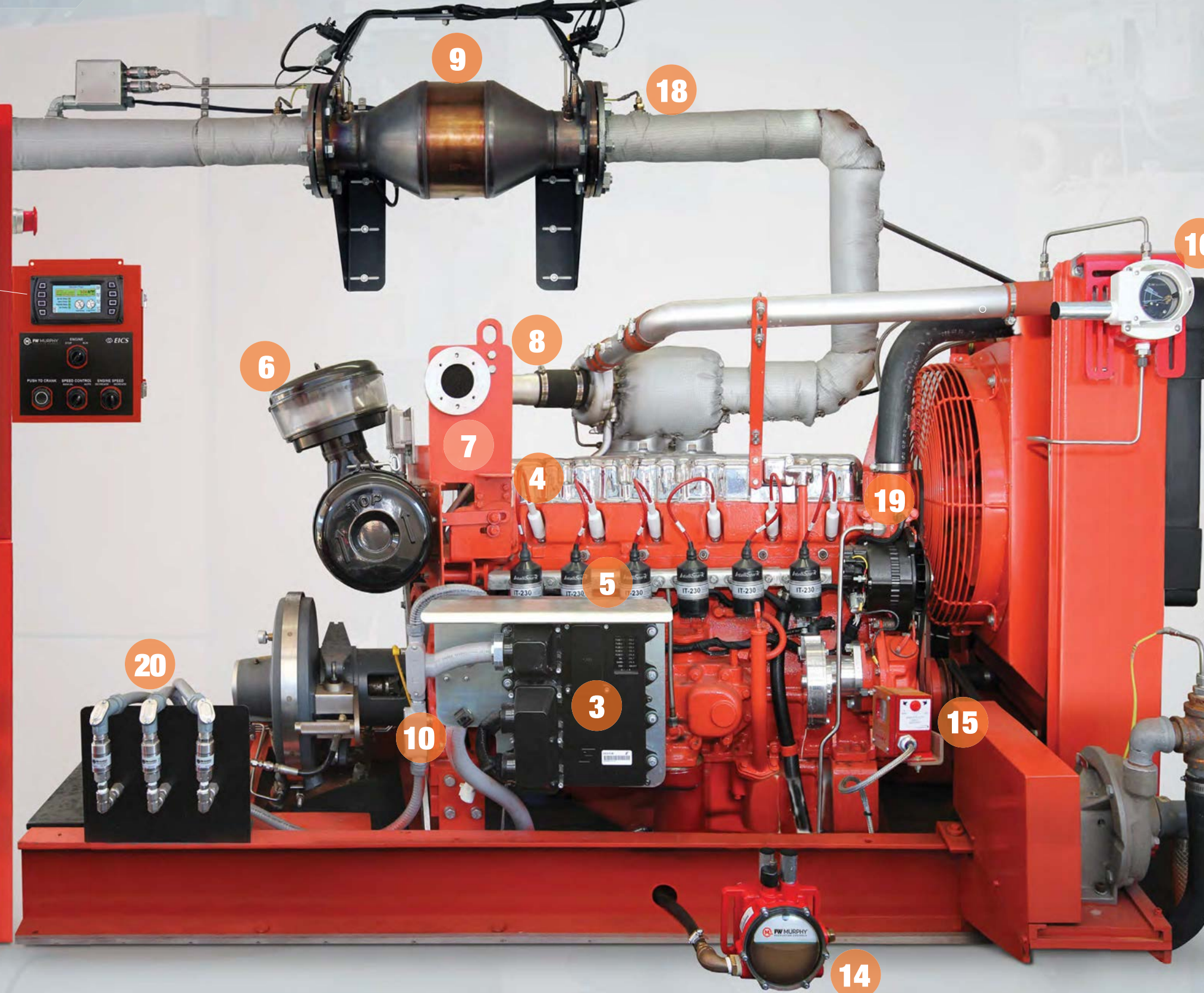
8. Electronic Governing/Suction Pressure Base Speed Control



9. Integrated Catalyst/Sensor Package



10. Wiring Harnesses



11. Indicating Gage with Adjustable Limit Switch Instrument



12. Scrubber Liquid Level Control / Monitoring



13. Scrubber Tank Liquid Level Dump Valve



14. Engine Oil Level Maintainers



15. Excessive Vibration / Shock Triggered Switch Instruments



16. Coolant Level Switch Instruments



17. J or K Type Thermocouples & Thermowells



18. Exhaust Temperature Switch Instruments



19. Pressure or Temperature Switch Instruments



20. Pressure Transducers

All Engine Management Systems can be in a stand-alone enclosure or integrated into a new or existing control panel.



# IntelliSpark® IGNITION CONTROL

Ensure the health of your spark-ignited natural gas engine with FW Murphy's IntelliSpark® ignition controller and components.

True primary and secondary diagnostics provide users with an intelligent view of engine operation, while increased programming capabilities give you ultimate control. The IntelliSpark systems feature microprocessor, capacitive discharge functionality for any application that requires a cost-effective or emission-controlled operation.



## AFR AIR/FUEL RATIO CONTROL

We understand that some applications require complex control of sophisticated systems. That's why we create a full line of ignition and air-fuel ratio controllers for natural gas powered engines.

Achieving compliance is a breeze with the FW Murphy air-fuel ratio controllers. The complete line of controllers – AFR-1R, AFR-9R, AFR-64R, AFR-64L and AFR-FI – provide customers with continuous compliance, lower fuel and maintenance costs, troubleshooting and diagnostics with automatic shutdowns. With FW Murphy air-fuel ratio controls your equipment will meet emissions regulations now and in the future.



Color Displays for Operation Status and Diagnostics



Customized Wire Harnesses



Ignition Coils Smart Coil™



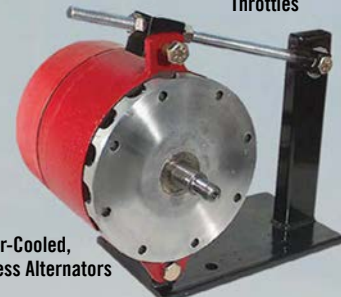
Electronic Throttles



Magnetic Pickups and Pins, Hall-Effect Sensors



Oxygen, Pressure, Temp, BAP Sensors



Air-Cooled, Brushless Alternators

# CENTURION™ C5 CONTROLLER

Revolutionize your asset management strategy with the Centurion C5. With the C5, you have the knowledge to manage your systems more effectively and ensure optimal performance.

By offering comprehensive diagnostics, C5 shares insights into how your system is running from big problems to simple wiring issues. Communications through the C5 utilizes multiple serial ports including CAN communications to take advantage of new engine ECU capabilities as well as Wi-Fi for wireless access.



Boasting world-class qualifications, C5 meets stringent certifications and harmonized international standards. In addition, it's future-proof and backward compatible, so it's ready to grow when you are.

Our entire Centurion lineup gives you more choice and scalability.

## M-VIEW™ DISPLAY SERIES

Our M-VIEW displays offer options to empower you with the knowledge you need.

With three simple, intuitive options, there is a perfect option to fit your job. Control your Centurion application in the way that makes sense for you. With our monochrome option in the MV-5 or full-color touch screens in the MV-7T or MV-12T, choose how to interact with your work.

All displays showcase alerts, status at a glance, bright screens and more.

MV-5 – 320 x 240 pixels, graphical LCD display



MV-7T – 7-inch widescreen touch 800 x 480 pixels sunlight readable display



MV-12T – 12-inch touch 1280 x 800 pixels, sunlight readable display.





# TRAINING PROGRAMS

FW Murphy Production Controls offers in-depth training on key products to ensure users get the most out of them. Learn the best practices and procedures from the people who make the products you count on every day.

## ***ENGINE BASICS***

Build a good engine knowledge foundation with this base level course. Learn the basic operations of gas-fired internal combustion engines and emissions creation and regulation.

## ***AFR OPERATIONS***

Familiarize yourself with the proper installation, operation and troubleshooting of FW Murphy's AFR-1R, AFR-9R, AFR-64R and AFR-64L air-fuel ratio controllers.

## ***EICS® OPERATIONS***

Learn the proper installation, operation and troubleshooting techniques with FW Murphy's flagship product EICS (Engine Integrated Control System).

## ***INTELLISPARK® IGNITION TRAINING***

Detailed instruction will train participants on the proper installation, operation, programming and troubleshooting of the FW Murphy IntelliSpark Ignition Systems for IS-8, IS-16 and IS-32.

## ***CUSTOM TRAINING***

Custom on-site training is available to all distributors, customers and end users. Learn in-depth about FW Murphy's EICS, AFRC and Ignition products. These classes can be modified to fit your specific needs. Contact your FW Murphy Production Controls Master Distributor for details.

*Class sizes are limited to ensure quality instruction and to allow every student time to fully grasp the concepts being covered.*

*Class enrollment is closed three weeks prior to the start of class.*

*All classes are held in our San Antonio, Texas, location.*

*Visit [www.fwmurphy.com/training](http://www.fwmurphy.com/training)*

# OUR COMMITMENT TO YOU

Our company is more than just a supplier of products. We work closely with our customers to design and deliver innovative and reliable products for specific applications. Our goal is not just to meet, but to exceed customer expectations in order to become the preferred partner.

## ***IN-HOUSE MANUFACTURING***

We take pride in our world-class manufacturing, which allows us to perform specialized manufacturing processes and provide customers with more reliable products. We have integrated a standard operating system, which utilizes intelligent approaches like lean manufacturing and Six Sigma, for maximum productivity.

## ***CUSTOMER-FOCUSED SUPPORT***

We understand the importance of creating sustainable partnerships with our customers. To accomplish that, we provide support before, during and after the initial sale. From engineering support to troubleshooting assistance, we are with you every step of the way.

## ***GLOBAL SERVICE AND SUPPORT:***

- 24-Hour Technical Support
- Global Field Service
- Skilled Engineering Team
- Startup/Commissioning, Training and Troubleshooting Assistance







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PRODUCTION CONTROLS

#### **FW MURPHY PRODUCTION CONTROLS**

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TULSA, OK 74135

#### **MANUFACTURING**

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ROSENBERG, TX 77471

5757 FARINON DRIVE  
SAN ANTONIO, TX 78249

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[WWW.FWMURPHY.COM](http://WWW.FWMURPHY.COM)

**FW MURPHY CONTROL SYSTEMS & SERVICES**  
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Certified specifications and performance data available upon request.

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