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CONDENSED CATALOG



MURPHY®



Reliable.
Innovative.
Customer Focused.

MURPHY PRODUCTS

For 70 years, people and companies around the world have depended on Murphy for monitoring and protection of their engines and driven equipment.

Our product line covers instruments that monitor critical functions of your equipment. We have J1939/CAN instrumentation, compressor controls, custom panels, auto start/stop controllers, sensors and more.

Murphy Serves You Around The World





Our Success
Is Measured By
The Success of
Our Relationship
With You.

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Murphy is known for its gages, and there's a good reason why. They're durable and dependable. They're highly accurate and long-lasting. We didn't make them so popular – our customers did. We just make them solid and reliable every time.

Mechanical Temperature Swichgage® and Gage Instruments

(Catalog Section 10)

Mechanical Pressure Swichgage® and Murphygage® Instruments

(Catalog Section 05)

Featured Product: 20P Gage

- Classic Swichgage design
- Combination indicating pressure gage and limit switch
- Pressure limit switch visible and adjustable
- Switch can activate alarms and/or shutdown equipment
- Exceeds SAE Standards



Featured Product: A20T gage

- Corrosion-resistant polycarbonate case
- Indicating temperature gage and limit switch
- Switch can activate alarms and/or shutdown equipment
- Contact(s) isolated from ground
- Standard normally open switch outputs

Most of these products have standard normally open switch outputs.

	pressure	differential pressure	vacuum	hazardous rated*	2" 51mm	2.5" 64mm	4.5" 114mm	NO/NC systems*	diaphragm [90° sweep]	bourdon tube [270° sweep]
20P/25P	•				•	•		•	•	
A20P/A25P	•			•	•	•		•	•	
20V/A20V/25V/A25V			•		•	•			•	
20DP/A20DP/25DP/A25DP		•			•	•		•	•	
20VWC/25VWC/A25VWC			•		•	•			•	
20BPG**	•				•				•	
OPL-series	•		•	•			•			•
OPL-BP-series	•		•	•			•			•
45APE	•		•	•			•	•		•
PT167EX	•			•			•			•

*Specific models only
**No contacts

	metal case	polycarbonate case	direct mount	2" 51mm	2.5" 64mm	4.5" 114mm	hazardous rated*	NO/NC systems*	diaphragm [90° sweep]	bourdon tube [270° sweep]	bimetal
20T/25T	•			•	•			•	•		
A20T/A25T		•		•	•		•	•	•		
SPL-series	•					•	•			•	
20BTG**	•			•					•		
45TE-series	•					•	•	•		•	
SDB-series	•		•				•				•

*Specific models only
**No contacts

Electric Switchgage®
and Gage Instruments and Senders

(Catalog Section 70)

Featured Product:
EGS21P Electric Switchgage

- EG Air Core movement design
- Rugged design exceeds SAE J1810 standards
- Adjustable set point
- Solid-state switch output



- Other EG Products:
- CANdrive™ – J1939 to electric gage convertor

Hourmeters and Tachometers

(Catalog Section 20)

Featured Product: ATHA
Tachometer/Hourmeter

- Sensing from magnetic sensor signal or battery charging alternator
- High visibility analog readout
- Air core movement
- Easy calibration
- Through dial lighting



	gage	sender	pressure	temperature	fuel level	voltage and current	switching	weather sealed
EG21-series	•		•	•	•	•		•
EGS21-series	•		•	•	•	•	•	•
ESP-series		•	•					n/a
EST-series		•		•				n/a
ESF-series		•			•			n/a

	tachometer	hourmeter	digital	analog	mag pickup	alternator	battery voltage ignition	electro-mechanical	backlight
MT90	•		•		•	•			•
MTH6	•	•	•		•	•			•
TM-series		•	•					•	
AT-series	•	•		•	•	•	•		•
EGT/H-series	•	•		•	•	•	•		•

Electronic engines are a mystery to most people. Not to Murphy. We've cracked the code of the modern ECU to give operators a clear view of what their engines are doing at any time. Our displays use cutting-edge technology, without sacrificing durability.

PowerView™ Analog Gages

(Catalog Section 78)

- Featured Product:
- PVM20-B Temperature Gage
- Displays J1939 parameters in an analog gage
 - Smooth needle movement
 - 270° sweep pointer
 - Wide selection of lens and bezel styles and colors
 - Adjustable LED backlighting
 - PV101 drives the PVM gages, they can also be driven by other products when using the PVS-5 power supply



Common parameters include: pressure, temperature, time, speed, volts and fuel.

	Power Supply input voltage	2" 51mm	3.5" 89mm	Displays J1939 Data	Driven by PV101	RS485	J1939	Audible alarm
PVA gage	6 - 32	•	•	•	•	•		
PVAA alarm	8 - 32	•			•	•		•
PVM gage	5	•	•	•	•	•		

J1939/CAN PowerView™ Displays

(Catalog Section 78)

- Featured Product: PV101 Display
- Displays SAE J1939 standard and proprietary messages
 - Wide operating temperature range [-40 to 185°F/85°C].
 - Displays SAE J1939 diagnostic trouble codes with text translations for diagnosing most common equipment malfunctions



- Featured Product:
- PV1000 Display
- Murphy's flagship J1939 display
 - Large full-color VGA screen
 - Full integration within a single display
 - GPS display capabilities built-in
 - Remote keypad option available

	Power Supply	Display	CAN ports	optional GPS display	screen size (diagonal)
PV101	12/24	B/W LCD	1		4" [102mm]
PV1000	12/24	Color VGA	4	•	6.5" [165mm]

- Other J1939 Products:
- XM500 - CAN i/o module
 - CANdrive - Interface to drive electric gages
 - SenderCAN - Analog Input to CAN
 - FuelCAN - Fuel Sender to CAN
 - MeCAN - Magnetic Pickup [MPU] to CAN

Murphy Power Ignition
(Catalog Section 50)

Featured Product:
MPI-16D Controller

- True primary and secondary diagnostics
- Five timing reference options, including camless operation
- 32-bit microprocessor controller
- Field-programmable front panel display



Compliance Controls
(Catalog Section 50)

Featured Product: AFR-1 Rich Burn
Air/Fuel Ratio Controller

- Simple on-screen navigation
- Easy on-Screen help menus
- Heated oxygen sensor with health diagnostics
- Fully upgradeable / scalable

Other MPI Products:

- Brushless Alternators
- Detonation Sensing Module/System
- Coils, Shielded and Unshielded
- Replacement parts for Altronic III and Altronic V Ignition Systems

	Outputs	Energy Storage	Simultaneous Pairing	Crankshaft Referenced	Remote Comm. Port	CSA Certified for Cl. 1, Div.2 Gps. B, C, D
MPI- 8	8	125 mJ		•	•	•
MPI - 16	16	125 mJ		•	•	•
MPI - 32	32	180 mJ	•	•	•	•
MPI - 601	1	250 mJ		•		

	Engine Type	Number of Setpoints	Configurable by	Post-catalyst Sensor Input Option	Manifold Pressure Sensor Input	Manifold Temperature Sensor Input	Diagnostic Plotting & Logging	Closed-loop Oxygen Sensor Feedback Control	Open-loop Feed Forward Control
AFR - 1	Carburetor Rich Burn	1	Keypad	•				•	
AFR - 9	Carburetor Rich Burn	9	Keypad	•	•			•	•
MEC - L	Carburetor Lean Burn	64	Laptop		•	•	•	•	•
MEC - R	Carburetor Rich Burn	64	Laptop	•	•		•	•	•
MEC - FI	Fuel-Injected	20	Keypad		Air & Fuel	Thermocouple or RTDT	SCADA Ready		

Altronic is a registered trademark.

ENGINE CONTROLS

Engine Controllers (Catalog Section 40)

Featured Product: Cascade CD101 Auto-Start/Stop Controller

- Automatic start and stop control with easy configuration
- Designed for both mechanical and electronically controlled engines
- J1939 Ready – works directly with MurphyLink™ PVA gages



	autostart/ stop	digital	display	LED indicator	mechanical engines support	electronic engines sup- port (J1939)	basic	configurable
EMS-series	•	•	•		•			•
eGuard	•	•	•		•	•		•
Cascade CD101	•	•		•	•	•	•	•
ASM-series	•	•		•	•		•	
A91	•	•		•	•		•	

Additional options are available. Call Murphy for advice on your specific applications.

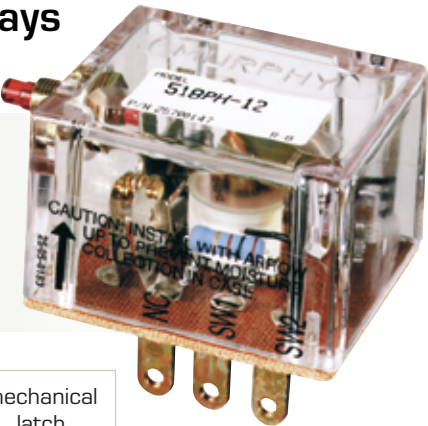
Other Engine Controls:

- Keystart – manual start/stop and automatic fault protection
- CANstart – start/stop, panel gage driving and automatic fault protection

Tattletale® Annunciators and Magnetic Switch Relays (Catalog Section 25)

Featured Product: Tattletale Annunciators

- Translates Swichgage contact operations into decisions to operate alarms or shutdown devices
- Shows which monitored function caused an alarm or shutdown
- Weather resistant case



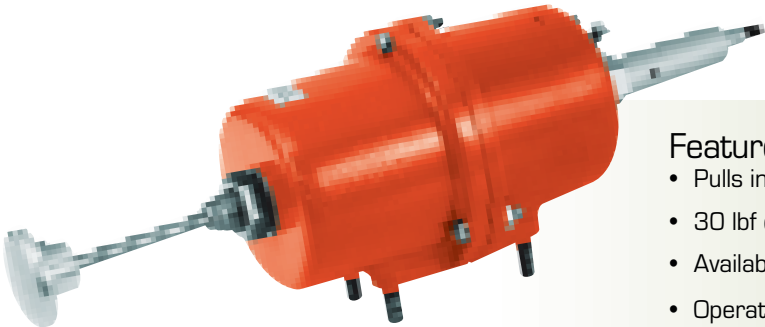
	annunciator	mag switch	12/24 VDC	120 VAC	CD ignition	electrical latch	mechanical latch
117-series	•	•	•				•
518-series	•	•	•			•	
MS-series	•	•	•	•	•		•

ENGINE CONTROLS

“Sometimes you need more than engine data.
You need action too. Our engine controls are
the best match for Murphy Instrumentation.
You can add autostart, shutdown, alarm and more.”

Electro-Mechanical Controls

(Catalog Section 40)



Featured Product: RP75 Rack Puller for Diesel Engines

- Pulls injection pump or air intake shut-off lever
- 30 lbf operating force
- Available for 12- or 24-volt systems
- Operates on signal from Swichgage instruments via Tattletale® Annunciator or Magnetic Switch relay

	throttle	clutch	rack puller	ETR	ETS	omni- voltage	12 VDC	24 VDC
AT03069	•					•	•	•
CO3		•					•	•
RP75			•		•		•	•
RP2307-RP2310				•	•		•	•



Battery Chargers (Catalog Section 75)

Featured Product: Guardian Battery Charger

- High-quality construction
- Controlled charge currents
- Auto boost
- Temperature compensation

	float charging	auto boost	temperature compensation	maximum current ADC	nominal voltage VDC	charge fall relay output
Sentry	•	•	•	5A at 12v	12	•
Guardian	•	•	•	10A at 12/24VDC 20A at 24 VDC	12/24	•

PANELS AND SYSTEMS

Murphy has spent years cultivating its expertise in electronic engines and ECUs. Now we're delivering our knowledge directly to you. We have a staff of application engineers dedicated to building just the right panel for your application. From custom programming and configuration to equipment dashes and custom displays – if you can imagine it, we can build it.

Panel Systems for Electronically-Controlled Engines (Catalog Section 30)

Featured Product: M-Series MurphyLink™ Panel

- Standard panel for modern electronic engines
- Combines analog gages with the award-winning PowerView 101 display
- Standard wiring harnesses available for most manufacturer's ECUs
- Deutsch connectors for easy installation
- Optional controllers available for engine automation



Panels for Deutz 1011/2011, 912/913, and 914 Engines

	mechanical engines	electronic engines	digital display	analog gages	autostart	I/O
WDU 500 series	•	•			Cascade	4/4
WDU 600 series	•	•	PV101	Tach	Cascade	4/4
WDU 800 series	•			EG and Tach		

Panels for Pump Control / Power Units

	mechanical engines	electronic engines	digital display	analog gages	autostart	Throttle to Input	I/O
M110-series		•	PV101				
M320-series		•	PV101	PVA			
M520-series	•	•			Cascade		4/4
M620-series	•	•		PVA	Cascade		4/4
M720-series	•	•	eGuard	PVA	eGuard	•	32/8

PANELS AND SYSTEMS

Panel Systems for Mechanically-Controlled Engines (Catalog Section 30)

Featured Product: MC100 Panel

- Configurable panel – standard panel sizes that can be configured with multiple options
- Choose your gages, starting method, tachometer, mounting options – even add a hinged door or hinged faceplate
- Customize your panel online. Get it shipped within a week



	Applications
MC100	Online Quote/Spec Capability - General Shutdown
75160/WHB	Shutdown for Irrigation Apps
EA150	Basic Micro Controller
WD300	Includes SV Series Fuel Shut-off valve
WDU-277	Deutz 413, 511, 912 and 913 Engines

Panel Systems for Generator Sets (Catalog Section 30)

Featured Product: MGC150 Panel

- Cascade/eGuard controller options
- Provision for optional PVA gages or PowerView
- Quick disconnect and standard MEH harness available



	mechanical engines	electronic engines	metering (volts amps hertz)	digital display	analog gages	autostart	I/O	applications
MGC25	•	•	•					Power Gen. - Meter only
MGC50	•	•	•					Pwr Gen.- w/Keyswitch
MGC100	•	•	•		PVA/M or EG	•		Power Gen. - Cascade
MGC150	•	•	•	PV101		•		Power Gen. - Cascade
MGC300	•	•	included w/iGuard	included w/iGuard		•	32/8	Power Gen. - iGuard
MGC350	•	•	included w/iGuard	included w/iGuard		•	52/28	Power Gen. - iGuard

PANELS AND SYSTEMS

Murphy's Control Systems and Services offers a full line of control panels. We offer controls and interfaces for a wide range of applications — from engines and motors, to pumps and compressors. We start with a basic platform, then add your custom design. Instrumentation, layout, software — you get it exactly how you want it. It's the total Murphy treatment — reliable control backed by full customer service.

Panel Systems for Equipment Monitoring and Protection (Catalog Section 50)

Basic Shutdown Panel Featuring The TTD™ Annunciator

- Fully-configurable fault annunciator
- Includes alarm and shutdown control

	communications	I/O	configurable I/O	non-incendive inputs	intrinsically safe inputs	area classification
TTD	RS232/RS485*		48/4 NO/NC	•		csa cl. I, div. 2 grps. B, C, D
LCDT		47/3 NO/NC		•	•	csa cl. I, div. 1 group D

*Communication ports utilized for operation visibility



Panel Systems for Wellhead Compression Control (Catalog Section 50)

Basic Autostart Control Panel Featuring The WellPro™ Controller

- Fully-configurable fault annunciator
- Includes alarm and shutdown control

	communications	configurable I/O	non-incendive inputs	intrinsically safe inputs	area classification
WellPro	RS485, USB*	17/8 NO/NC	•	•* *	csa cl. I, div. 2 grps. B, C, D

*Communication ports utilized for operation visibility and control.
* *Available with use of external barriers.

Control Systems and Services features weather-proof enclosures with safety glass windows painted to specifications or stainless steel, vibration/shock mounted subpanel inserts and temperature-controlled solutions when required.

UL and/or CSA approvals for control panels available. Additional area approvals available. CS&S is a certified UL and CSA manufacturing facility.



PANELS AND SYSTEMS

Configurable Panel System for Equipment Monitoring and Protection with Available Autostart and Process Control (Catalog Section 50)

Basic Shutdown/Autostart Panel Featuring The Centurion™ Controller

- A hybrid of annunciator and compressor controller
- Combines the monitoring and shutdown features of an annunciator, with auto-start and basic engine controls that help prevent shutdown

	communications	I/O	expansion I/O	non-incendive inputs	intrinsically safe inputs	area classification
Centurion	RS232/RS485 USB*	53/12 NO/NC	16/4	•	•* *	csa cl. I, div. 2 grps. B, C, D
S1501	RS232/RS485	64/7 NO/NC		•	•	csa cl. I, div. 1 grps. C & D

*Communication ports utilized for operation visibility and control

**Available with use of external barriers



Programmable Panel System for Full-Featured Control (Catalog Section 50)

Full-Featured Control Panel Featuring The Millennium™ Controller

- Full-featured monitoring, control and data acquisition system
- Highest-end controller available

	commu-nications	complex calculations	I/O	configurable I/O expansion	non-incendive inputs	intrinsically safe inputs	area classification
Millennium	RS232 RS485*	•	17/10 NO/NC	74/12**	•	•***	csa cl. I, div. 2 grps. B, C, D
Centurion Plus	2 RS232/RS485+USB	•			•	•***	csa cl. I, div. 2 grps. B, C, D
3rd Party PLC	user defined*	•	user defined	user defined	•	•***	csa cl. I, div. 2 grps. C & D

*Communication ports utilized for operation visibility and control

**I/O can be of any configuration of available expansion modules

***Available with use of external barriers



COMPRESSOR CONTROLS

Basic shutdown? Temperature scanning? Total control?
Whatever level of control you need, Murphy has you covered.
Don't pay extra, and don't settle for too little. Find a controller with the right mix of features for you.

COMPRESSOR CONTROLS

Annunciators

[Catalog Section 50]

Featured Product: TTD™ Annunciator

- Digital annunciator with shutdown capabilities
- Monitors up to 48 user-configurable sensor inputs
- Communications ports included
- Additional options available, such as tachometer, pre/post lube, and lube no-flow detection



	DC power	ignition power	AC power	Div. 1 classification	Div. 2 classification	internal tachometer	hourmeter	NO/NC inputs
TTD	•	•			•	•	•	48
LCDT	•	•	•	•				47/45
S1501	•		•	•		•	•	26/64

Temperature Scanners

[Catalog Section 10]

Featured Product: TDXM Temperature Scanner

- Scans up to 24 channels
- Three adjustable trip points per channel
- Accepts any combination of J- or K- type grounded or ungrounded thermocouples



	points	digital display	communications [RS485]	DC power	ignition power	AC power	outputs
TDXM	24	•	•	•			3
TDX6	6	•		•	•	•	6
MDTM89	2	•		•	•	•	2



Controllers

[Catalog Section 50]

Featured Product: Centurion™ Controller

- Fully-configurable control and monitoring system
- Expandable to meet most 3-stage compressor applications
- No programming experience required. Off-the-shelf configuration handles the most commonly used control sequences

	analog inputs	thermocouple inputs	analog outputs	digital inputs	digital outputs	expandability	expansion I/O	communication ports	USB	display
Centurion	12	8*	2	32	10	1 module	8 AI + 8 TC + 4 AO	2 RS485/RS232 + USB	•	graphic LCD
Centurion Plus	12	8*	2	32	10	3 modules	varies by module, up to 3 modules	2 RS485/RS232 + USB	•	graphic LCD
Millennium	by expansion	by expansion	2	16	8	5 modules	varies by module, up to 5 modules	4 RS485 + 2 RS232		character VFD

*Optional RTD model provides 8 RTD (2-wire 100 ohm Platinum) inputs in place of 8 TC inputs.

PROCESS MONITORING INSTRUMENTS

Do you have a function of your equipment that needs monitoring or controlling? That's what you'll find here. Get clear information on the health of your equipment, and protect it through automatic monitoring.

Vibration Switches and Controls

[Catalog section 20]

Featured Product: EVS™ – Electronic Vibration Switch

- Electronically integrated output signal trips on velocity-based vibration
- Adjustable calibrated set-point controls
- Accelerometer-based for accuracy and durability
- Optional 4-20 mA output for continuous monitoring capability
- Available for class 1, div.1 or 2, grps. c & d hazardous areas



	Vibration switch	monitor	4-20 mA output	hazardous rated *
VS2	•			
VS2EX	•			•
EVS	•	•	•	•
CSS-series	•			•
VS94	•			

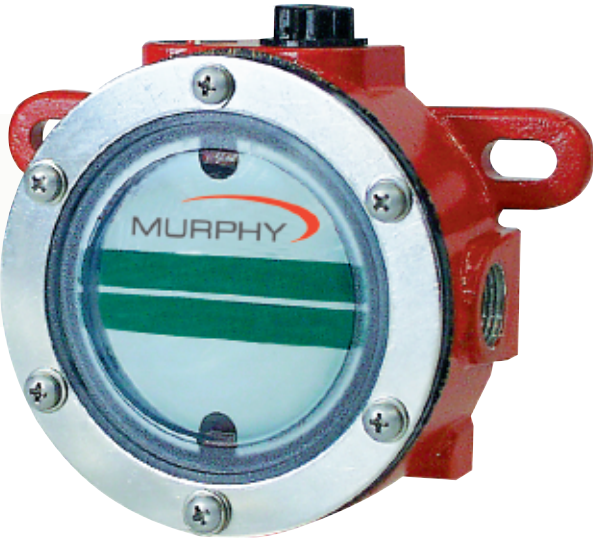
*specific models only

Level Maintainers and Level Switches

[Catalog section 15]

Featured Product: LM2000 Lube Level Maintainer

- Automatically maintains lube level
- Displays oil level and condition without shutting down
- Positive sealing Thumb-Valve™ Operation



	maintainer	sight glass	gage	hazardous rated *
LM2000	•	•		
LM300-series	•	•		•
L150			•	
EL150-series			•	•
L129		•		
L100-series		•		
OPLH-series			•	•

*specific models only

PROCESS MONITORING INSTRUMENTS

Scrubber Level Controls

[Catalog section 15]



Featured Product: LS200 Liquid Level Model

- Design for harsh, gas compressor scrubber applications
- 304 stainless steel float
- LS200 Series rated for 2000 psi [13.8 MPa] [138 bar] working pressure
- Electric and pneumatic models available
- Improved, more dependable design with minimum moving parts

	pneumatic	electric	SPDT	DPDT option	scrubber vessel connection	hazardous rated *	DVO pilot valve	DVOR w/filter regulator
LS200		•	•	•	2 NPT	•		
LS200N	•				2 NPT		•	•
L1100		•	•	•	1.5 NPT	•		
L1100N	•				1.5 NPT		•	•

*specific models only

Valves

[Catalog section 15/55]



Featured Product: DVU Series Dump Valve

- For Separators/Scrubbers to 2000 psi
- Hex union allows plug and seat replacement without piping removal
- Operates on 30-70 psi control pressure

	scrubber vessel connection	outlet pipe size	max. working pressure
150-series*	1 NPT	1/2 NPT	1800 psi
175-series*	1 NPT	3/4 NPT	1800 psi
2100-series	2 NPT	1 NPT	500-2000 psi

*316 stainless steel model available.

Fuel Valves [Catalog section 55]

Featured Product: M50 Series
Fuel Shutoff Valve

- Instant response to shut off signal
- Positive valve closure
- Vents gases trapped after shutdown



	shutoff valve	check valve	pressure relief valve	energize to open	applications
SV-series	•			•	diesel
CKV		•			diesel
PRV			•		diesel
M25	•				natural gas
M50	•				natural gas

Pressure and Temperature Sensors

[Catalog section 5/10]

Featured Product: PXT Series Pressure Transmitters

- 0.25% accuracy
- 4-20 mA output signal
- Precision etched silicon sensor
- Corrosion resistant construction
- High stability



	pressure	temperature	SPDT	switch	transmitter	direct mount
PSB	•		• (factory set)	•		•
TSB		•	• (factory set)	•		•
PXT	•				•	

Temperature Sensors

[Catalog section 10]

Featured Product: Thermocouple
Encased in 1/4" Stainless Steel

- 316 braided shield with Teflon overlay extension wire
- K type, 6" and 10" long 1/4" probes
- Can be bent anywhere along its length to a 90° angle
- Tip sensitive to minimize temperature influence from surrounding environment



	sensor	transmitter	direct mount	conduit head	output
TC-series	J/K		•	•	mv
1/4" Thermocouple	K		•		mv
RTD	100 Ohm, platinum		•	•	100 Ohm, 3 wire
RTDT	100 Ohm, platinum	4-20 mA	•	•	4-20 mA

Speed Measurement and Switches

[Catalog section 20]

Featured Product: SHD30 Tach/Hourmeter

- Digital tachometer hourmeter with overspeed trip point
- Normally open and normally closed overspeed alarm and shutdown
- Approved for class I, division 2 gps. c & d hazardous areas



	speed sensor	speed switch	adjustable setpoint	output	SPDT	mag Pickup	CD ignition	alternator
MP (Mag Pickup)	•			pulsed		•		
SS300 series		•	1	relay	•	•		•
OS77 series	•		1	transistor		•		•
HD9063 series		•	2	relay	•	•		
SHD30		•	1	solid state/relay	•	•	•	

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**Oil & Gas Markets: Field Gas Gathering,
Gas Transmission, Gas Power Generation*

***Industrial Markets: Industrial Stationary,
Off Highway, Marine, Power Generation*



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