INDEX

SENSORS & CONTROLS

2022

PRODUCT CATALOG

Index Sensors & Controls, Inc.

We are a leading manufacturer of switches, sensors, and controls for the commercial truck, engine, agricultural, off-road, and industrial equipment markets. Our products monitor, control and protect some of the world's toughest equipment.

For over 45 years, Index has built a reputation for designing and producing products that stand up to the harshest, most severe environments.

Index Sensors is a supplier to the world's most demanding equipment manufacturers, including Cummins, Caterpillar, John Deere, all makes of Class 8 trucks, and a wide range of specialty original equipment manufacturers (OEMs).

We continue to expand our focus on helping industrial vehicle manufacturers, equipment OEMs, and users add innovation and efficiency to their products.

Index's switches, sensors, and controls play a growing role "behind the scenes" improving basic machine operation, as well as benefit equipment users with easier operation, diagnostics, and lower maintenance costs.


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Certificate of Registration

...making excellence a habit.

Index has been IATF 16949:2016 (TS16949) certified since 2016.

TABLE OF CONTENTS

CUSTOMER SUPPORT & ORDERING INFORMATION

Index offers a variety of ways to order

Original Equipment Manufacturers

Index provides components and custom-engineered products to Original Equipment Manufacturers (OEMs) in a variety of fields: heavy-duty highway (truck & bus), automotive, construction, agriculture/lawn care, marine, defense, power generation, and assorted industrial applications.

If your company is an OEM or if you need particular performance characteristics or design features for your application, give us a call at (800) 726-1737 or contact us via email at: oemsales@indexsensors.com

Aftermarket Independent Distributor

In addition to OEM distributors, our products are also carried by independent heavy-duty parts distributors all over the world. Some parts can be rushed for next-day delivery. Contact us to locate a distributor near you.

Aftermarket Heavy Vehicle Dealers

Index parts are carried by OEM dealers and distributors. Contact your local OEM truck dealer to purchase.

INDEX
SENSORS & CONTROLS

Index's sensors and controls manufacturing facility and headquarters are located in Arlington, Washington, 45 miles north of Seattle on the I-5 corridor. Our building was designed to support Index's advanced engineering and quality labs, world-class manufacturing processes, flexible layout, effective inventory management, and advanced computer information system.

We are a Tier 1 OEM supplier to over 50 engine and vehicle producers. Index maintains an industry-leading 2-week turnaround for standard catalog items with a 99% on-time delivery rate.

Looking for custom items? We are happy to work with you to develop and manufacture products to fit your specific application. Read below for more information.

Part of our company

mission is to have satisfying relationships with our customers. We appreciate your business and strive to delight each customer throughout every stage of your order.

◆ Customer Support

Representatives are available to assist you with your order. They can answer your questions about orders in process and the availability of new or existing products. Reach our representatives toll free at (800) 726-1737 or via email: customersupport@indexsensors.com

◆ Sales Support

At Index, we are always looking for ways we can help enhance your products and your business – and make your life a little easier in the process. Whether you are looking for rugged and reliable products, smarter components or custom-engineered controls, we are ready to help. If you are interested in learning more about Index products, please call (800) 726-1737 or via email: sales@indexsensors.com

◆ Technical Support

We understand that technical questions come up over the life of our products. To help with these questions, contact our technical support staff for additional information about any of our products at (800) 726-1737 or (360) 629-5200, or via email: customersupport@indexsensors.com

We deliver solutions that make sense

Index offers custom-specification of products and custom-designed products not listed in this catalog. We are happy to work with you to develop and manufacture products to fit your specific needs, all within a short lead time.

◆ Our capabilities include:

- Multi-function control systems
- Electronic controls
- Mechanical and electrical temperature sensors and switches
- Mechanical and electrical pressure sensors and switches
- Liquid level probes
- Position and level sensors
- Continuous flow manufacturing process
- Automated testing equipment
- AIAG bar-coded packaging

◆ Engineering Capabilities:

- Product design (custom & proprietary)
- Applications engineering
- System analysis
- Control algorithm design
- Hardware design
- Software development
- User interface design
- Mechanical design
- Design testing
- Reliability engineering
- CPK Analysis
- Test engineering

Index has a large variety of configurations with our standard products, but sometimes that isn't enough. If you require something different to suit your needs, just ask. We can review your requirements, ranging from a simple "tweak" of a current product to a fully custom design.

Call (800) 726-1737 to speak with a Sales Engineer or email: sales@indexsensors.com

FAMILY OF PRODUCTS

MECHANICAL PRESSURE AND TEMPERATURE SWITCHES

Pressure switch applications include air conditioning, transmission, air pressure, hydraulic, brake fluid, and oil pressure. Temperature control and monitoring for engines, hydraulics, and similar applications in on- and off-road vehicles as well as stationary equipment.

ELECTRONIC TEMPERATURE SWITCHES

Custom-programmable flexibility and functionality including multiple outputs, timed switching, blink signals, PWM, and more. Highly accurate temperature monitoring, control, overtemp warning, and shutdown for engines and industrial equipment.

LIQUID LEVEL

Liquid sensing products improve the reliability and operation of your vehicle: Coolant Level sensors increase the overall longevity of your vehicle engine and Water-In-Fuel sensors keep your engine running smoothly without costly repairs or downtime.

SENSORS (LEVEL, TEMPERATURE, PRESSURE, POSITION)

Heavy-duty aftermarket replacement sensors for a variety of both on- and off-highway applications.

EMBEDDED CONTROL MODULES

Flexible "distributed intelligence" modules applying custom-programmed control logic to a variety of potential inputs. Can include user interface panels or keypads.

ORIGINAL EQUIPMENT SENSORS

Index provides components and custom-engineered products to Original Equipment Manufacturers (OEMs) in a variety of fields: heavy-duty highway (truck & bus), automotive, construction, agriculture/lawn care, marine, defense, and assorted industrial applications.

How To Read Index Part Descriptions

Index product descriptions use codes to shorten the descriptions. Housings and connectors are simplified to two-digit identification codes. Other words are abbreviated to allow thorough descriptions in a small space.

Housing & Connector Key

Housings – Temperature

H0	3/8" NPTF
H1	1/2" NPTF
H2	3/4-16 UNF
H3	3/4-16 UNF Long
H4	1/2" NPT Long
H5	3/8" BSPT
Hx	Other

Connectors

T0	1/4" spade	Spade
T1	8-32 screw	Threaded
C2	Metri-Pack 280	Plug w/socket
C3	Metri-Pack 280	Receptacle w/pin
C4	Metri-Pack 150	Plug w/socket
C5	Metri-Pack 150	Receptacle w/pin
C6	Weatherpack	Plug w/socket
C7	Weatherpack	Receptacle w/pin
C8	Deutsch	Plug w/socket
C9	Deutsch	Receptacle w/pin
Cw	None	Bare wire
Cx	Other	Other

Housings – Pressure

H0	1/4" F Schrader
H1	M10 F Schrader
H2	M12 F Schrader
H3	1/4" NPTF External
H4	1/8" NPTF External
H5	1/8" NPTF Long
H6	M12 x 1.5
H7	M14 x 1.5
H8	9/16" -18 UNF
H9	1/4" NPTF Internal
Hx	Other

Ambient Condition Settings

NO	Normally Open	**NC**	Normally Closed	**CO**	Common (NO & NC)

Product Feature Abbreviations

Pressure Switches

Psw	Pressure switch
R	Nominal refers to rising set point
F	Nominal refers to falling set point
D	Diagnostic resistor (e.g. APAds switches)
T	Time Delay
R12	For R12 A/C System
R134a	For R134a A/C System
APAds	APAds switches
Air, Oil, Fuel	Multi-purpose – suitable for air, oil, fuel, water, transmission, hydraulic or brake fluid

Temperature Switches

Temp Ctrl	Temperature control – heavy duty, wide current range
Temp Sw	Temperature switch – medium duty, current to 1 amp
TW	Electronic temperature switch
1fn	Single function electronic temperature switch
2fn	Dual function electronic temperature switch
Src	Sourcing – switch wired between power and load
Snk	Sinking – switch wired between load and ground
Fan timer	Fan timing temperature switch (takes input from A/C pressure switch)
PWM	Pulse width modulation

Standard Leaded Connector Options

Metri-Pack™ Plug and Receptacle

Weatherpack™ Plug and Receptacle

Deutsch Plug and Receptacle

Weatherpack and Metri-Pack are tradename of Delphi Corporation.

Deutsch connectors are made by Deutsch Industrial products division.

AIR CONDITIONING PROTECTION

Index's ACX-10 helps you keep your cool

Our air conditioning system protection modules go beyond monitoring conditions of low or high pressure and voltage. They stop damaging events, such as over-cycling, and coordinate functions within the system. Designed to thrive in harsh under-hood environments, Index Air Conditioning Protection Products help save money by extending the life of the A/C system and identifying problems before they become costly repairs.

Detection and protection system

The ACX-10 detects rapid cycling before you even notice that your air conditioner isn't working properly. As your A/C system charge levels drop, clutch cycles increase. The ACX-10 limits A/C clutch cycles to four engagements per minute, reducing system wear and tear.

Starter motor protection

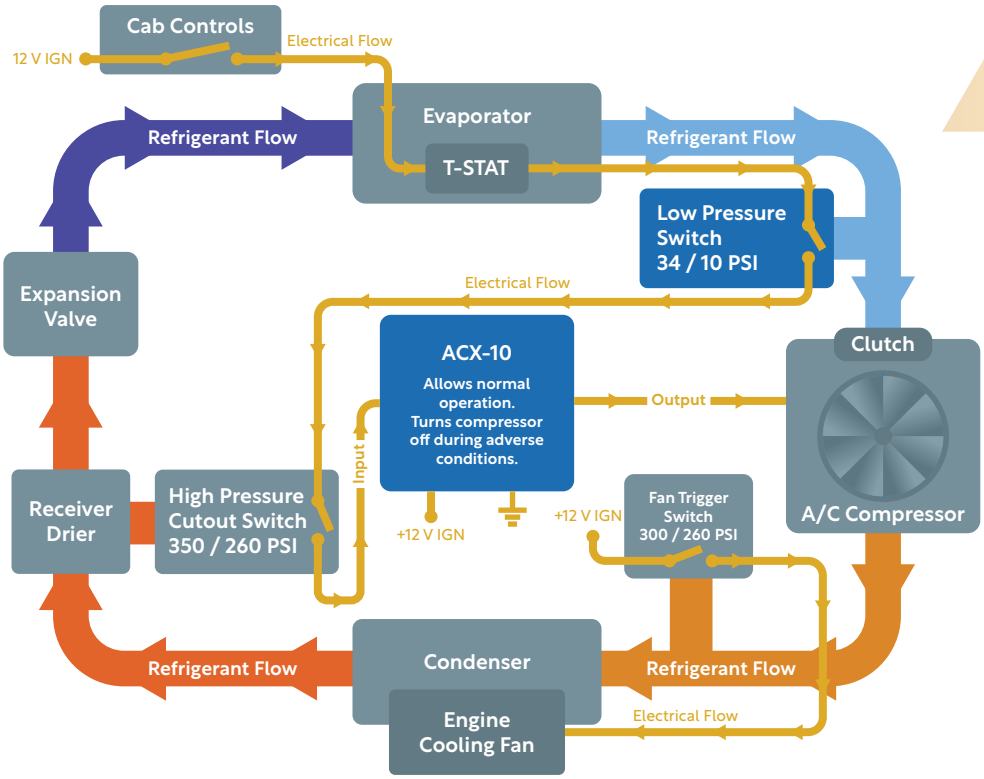
If the A/C is on during the vehicle's ignition cycle, the starter motor has to crank the compressor as well as the engine. The ACX-10 unburdens the starter motor and extends its life by delaying the A/C clutch engagement until 15 seconds after ignition.

Pressure protection

Improper system pressure can lead to rapid cycling. The ACX-10 limits system cycles to four engagements per minute, eliminating heat build-up.

Voltage protection

Over-voltage causes excessive current and heat in the clutch coil, which shortens its life. Worse yet, under-voltage can cause the clutch to slip and burn out. The ACX-10 detects poor voltage conditions and disengages the A/C clutch until the voltage returns to the normal, safe operating range.



Connector	Notes	INDEX P/N
Weatherpack Connector	ACX-10 Kit	**8041188**
Weatherpack Connector	12V, ISC	**8042167**
Weatherpack Connector	12V, ISX	**8042168**
Weatherpack Connector	12V	**8042169**
Metri-Pack Connector	12V	**8042171**
AMP Connector	24V	**8042173**
Deutsch Connector	12V	**8042178**

See definitions and connector key on page 6.

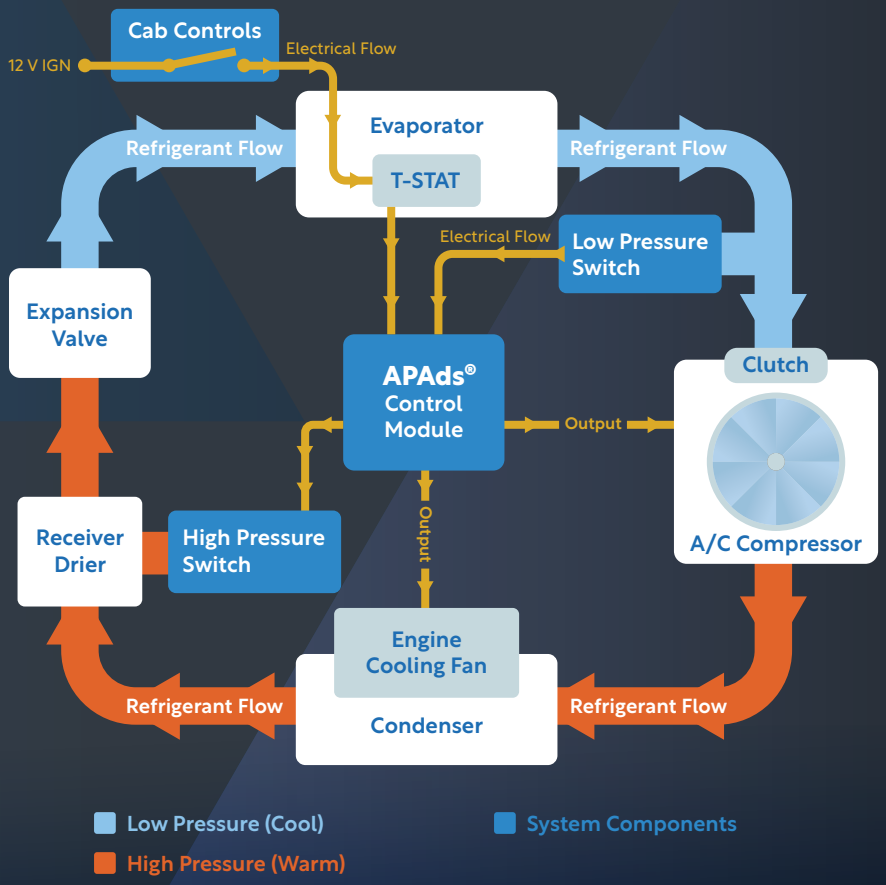
APAds® Air Conditioning Protection and Diagnostics System

Available as an OEM option, the APAds system offers full air conditioning control, protection, and diagnostics. Its microprocessor-based intelligence offers all the protection of the ACX-10, plus year-round compressor lubrication and cooling fan coordination to prevent fan cycling at idle. APAds also aids in preventive maintenance and troubleshooting with its easy-to-read diagnostic fault codes. Specifying the APAds system on your new vehicle will save you hundreds or even thousands of dollars in A/C maintenance, repair, and downtime over your years of ownership.

APAds multi-function control

- Prevents clutch damage from rapid cycling.
- Prevents clutch slippage from low voltage or over voltage.
- Improves A/C efficiency at idle.
- Eases troubleshooting with easy-to-interpret codes.
- Enhances preventive maintenance.
- Reduces expensive unscheduled repairs.
- Detects A/C problems even when A/C is turned off.

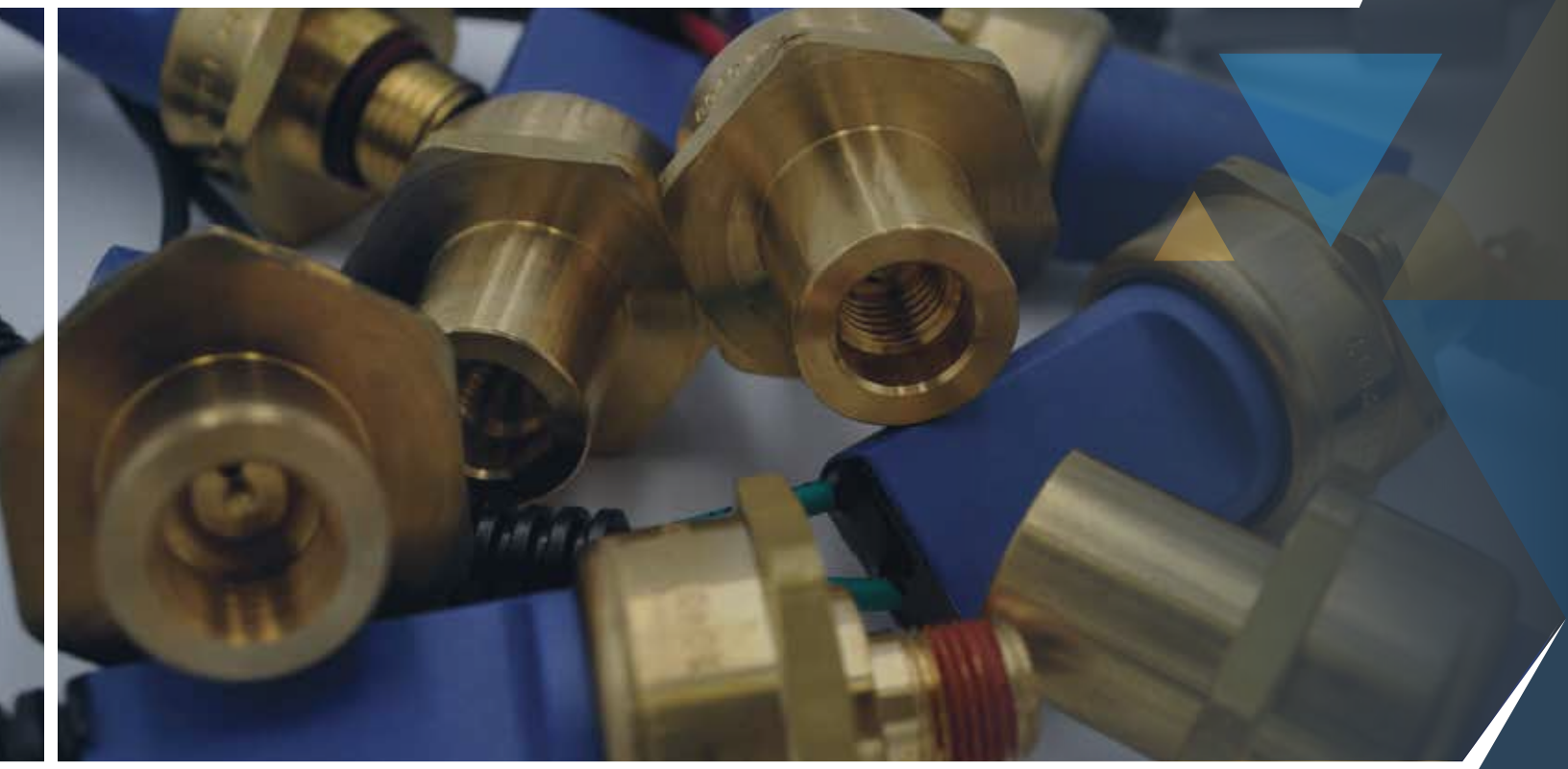
APAds is a registered trademark of Index Sensors & Controls, Inc.
Patent number 5,761,918



OEM	New Truck Spec Option Code #	Notes	Modules P/N (Service Parts)	Low Pressure Switch P/N (Service Parts)	High Pressure Switch P/N (Service Parts)
Mack	1739008		**8042121**	**8040189**	**8040135**
International	016-WJC016-WJH	For On/Off Fan Drives	**8042103**	**8040189**	**8040135**
		For Viscous Fan Drives	**8042124**	**8040189**	**8040172**
Kenworth	81040125		**8042103**	**8040189**	**8040135**
Peterbuilt		Call Index for information			
Freightlifter	702-009		**8042103**	**8040189**	**8040135**
Volvo	-		**8042152**	**8040189**	**8040135**

See definitions and connector key on page 6.

HEAVY-DUTY PRESSURE SWITCHES



Index's Heavy-Duty Pressure Switches are ideal for a wide range of heavy vehicle and equipment applications where durability and reliability are crucial.

Index switches are proven to withstand the shock and vibration of harsh underhood and off-road conditions.

◆ Built-in Vibration Resistance

Index Pressure Switches put up a double line of defense against vibration with two snap-action elements. Under load, a crisp-response pressure disc triggers a heavy-duty contact set, assuring clean electrical switching. Both elements are real workhorses in high duty-cycle applications, lasting up to 1 million cycles or more (depending on load/voltage conditions).

◆ Intelligent & Durable

Our switches have tight tolerance where high precision is needed. Intelligent switches with stable, drift-free calibration, pressure indication, interlock and control for engines, transmissions, hydraulics, fluid tanks, and similar industrial applications. In addition, they have a broad media compatibility: air, oil, water, coolant, hydraulic fluid, transmission fluid, and more.

◆ Time-Delay & Diagnostics

You have more options than just on/off switching, too. Index Time-Delay Pressure Switches allow your equipment to "ignore" a normal, momentary high pressure spike or low pressure dip. With Index Diagnostic Switches, your control computer can distinguish a wire short or break from a normally-operating open or closed switch circuit.

◆ Custom Specs

By working closely with a variety of OEMs, we determine exactly how a pressure switch functions in the vehicle or machine. What are the optimum set and reset pressures? What receives the switch signal output, and what is done with that information? Then we can dial in the optimum specs to help the entire system work at its best. Our switches have numerous fittings and connectors available.

With over 2,000 SKUs, many other parts are available – call or email for information.

Heavy-Duty Pressure Switches

Air Conditioning Pressure Switches: R134a Refrigerant Systems

High Pressure Cutout Switches - M10 Female Schrader Fitting

Set	Reset	Mode	Connector	Description	Notes	OEM	INDEX P/N
300	260	NC	Leaded Metri-Pack Plug	Psw 300R psi NC D H1 C2 A/C high APAds	for use with APADs system	Volvo 3939317	**8040135**
300	300	NC	Leaded Metri-Pack Plug	Psw 300R psi NC D H1 C2 A/C high APAds	for use with APADs system	Navistar 2501256C1	**8040177**
325	275	NC	Leaded Weatherpack Plug	Psw 350R psi NC D H1 C6 A/C high APAds	for use with APADs system		**8040172**
325	275	NC	Leaded Weatherpack Plug	Psw 325R psi NC H1 C6 A/C high	General Purpose		**8040312**
325	275	NC	Leaded Metri-Pack Plug	Psw 325R psi NC H1 C2 A/C high	General Purpose - 30" wires	Volvo 3948747	**8040277**
325	275	NC	Leaded Metri-Pack Plug	Psw 325R psi NC H1 C2 A/C high	General Purpose - 6" wires	Volvo 3948744	**8040239**
						Mack 1MR3562	
335	245	NC	Leaded Metri-Pack Plug	Psw 335R psi NC D H1 C2 A/C high APAds	for use with APADs system	Mack 1MR3594M	**8040317**

Fan Trigger Switches - M10 Female Schrader Fitting

Set	Reset	Mode	Connector	Description	Notes	OEM	INDEX P/N
275	235	NO	Leaded Weatherpack Plug	Psw 275R psi NO H1 C6 A/C fan	General Purpose		**8040315**
275	235	NC	Leaded Deutsch Receptacle	Psw 275R psi NC H1 C9 A/C fan	use with Index Fax Temp Timer	Volvo 3948748	**8040235**
						Volvo 3949500	
275	235	NC	Leaded Weatherpack Plug	Psw 275R psi NC H1 C6 A/C fan	General Purpose		**8040314**
300	260	NC	Leaded Weatherpack Plug	Psw 300R psi NC H1 C6 A/C fan	General Purpose		**8040164**

Low Pressure Cutout Switches - M12 Female Schrader Fitting

Set	Reset	Mode	Connector	Description	Notes	OEM	INDEX P/N
34	10	NO	Leaded Weatherpack Receptacle	Psw 034R psi NO H6 C7 A/C low	General Purpose & w/ACX-10		**8040321**
34	10	NO	Leaded Metri-Pack Receptacle	Psw 034R psi NO H2 C3 A/C low	General Purpose	Volvo 8025565	**8040281**
						Mack 1MR3561	
34	8	NC	Leaded Metri-Pack Receptacle	Psw 034R psi NC D H2 C3 A/C low APAds	for use with APAds system	Volvo 3966805	**8040189**
34	34	NC	Leaded Metri-Pack Receptacle	Psw 034R psi NC D H2 C3 A/C low Apads	for use with APAds system	Volvo 20437760	**8040136**
						Navistar 1699310C1	
						Cat 232-8506	
34	34	NC	Leaded Metri-Pack Receptacle	Psw 034R psi NC D H2 C3 A/C low Apads	for use with APAds system	Navistar 2501257C1	**8040178**
						Volvo 3966805	
40	32	NO	Leaded Metri-Pack Plug	Psw 040R psi NO H1 C2 A/C low	Note M10 F Schrader fitting	Volvo 3948749	**8040282**
47	25	NO	Leaded Weatherpack Receptacle	Psw 047R psi NO H2 C7 A/C low CCOT	for use with CCOT systems		**8040318**
47	25	NC	Leaded Weatherpack Receptacle	PSW 047R psi NC D H2 C7 A/C low APAds	for APAds on CCOT systems		**8040194**

Air Conditioning Pressure Switches: R12 Refrigerant Systems

High Pressure Cutout Switches - 1/4" Flare Fitting

Set	Reset	Mode	Connector	Description	Notes	OEM	INDEX P/N
310	220	NC	Leaded Weatherpack Receptacle	Psw 310R psi NC H0 C7 A/C high R12	General Purpose		**8040225**
335	245	NC	Leaded Metri-Pack Plug	Psw 335R psi NC H0 C2 A/C high R12	General Purpose	Mack 1MR2463	**8040316**
						Mack 1MR2451	
350	300	NC	Leaded Weatherpack Plug	Psw 350R psi NC D H0 C6 A/C high APAds	for use with APAds system		**8040171**

Fan Trigger Switches - 1/4" Flare Fitting

Set	Reset	Mode	Connector	Description	Notes	OEM	INDEX P/N
39	39	NO	Flying Leads	Psw 039R psi NO H0 Cw A/C low R12		Kysor 2299010	**8040201**
						Red Dot 71R6040	
250	250	NC	Leaded Weatherpack Plug	Psw 250R psi NC H0 C6 A/C fan R12		Red Dot 71R6402	**8040230**
275	235	NC	Leaded Deutsch Receptacle	Psw 275R psi NC H0 C9 A/C fan R12	use with Index Fan Temp Timer		**8040082**
275	235	NC	Leaded Weatherpack Receptacle	Psw 275R psi NC H0 C7 A/C fan R12	General Purpose	Mack 1MR2456	**8040243**
275	235	NC	Leaded Weatherpack Plug	Psw 275R psi NC H0 C6 A/C fan R12	General Purpose	Navistar 1622648C91	**8040231**
300	260	NC	Leaded Weatherpack Plug	Psw 300R psi NC H0 C6 A/C fan R12	General Purpose		**8040307**
300	260	NO	Leaded Weatherpack Plug	Psw 300R psi NO H1 C6 A/C fan R12	General Purpose		**8040313**
300	300	NC	Leaded Deutsch Receptacle	Psw 300R psi NC H1 C9 A/C fan R12	High Pressure A/C Switch	Red Dot RD5-10008	**8040088**

All pressures in PSI. See definitions and connector key on page 6.

Heavy-Duty Pressure Switches

Multi-purpose Pressure Switches: Specified by Rising Set Point

1/4" NPT Housing

Set	Reset	Mode	Connector	Description	INDEX P/N
9	7	CO	Leaded Weatherpack Receptacle	Psw 009R psi CO H3 C7 Air Oil Fuel	8040262
14	8	CO	Leaded Weatherpack Receptacle	Psw 014R psi CO H3 C7 Air Oil Fuel	8040280
35	255	CO	Leaded Weatherpack Receptacle	Psw 035R psi CO H3 C7 Air Oil Fuel	8040254

1/8" NPT Housing

Set	Reset	Mode	Connector	Description	INDEX P/N
8	4	NO	Ring Terminals	Psw 008R psi NO H4 Cx Air Oil Fuel	8040311
14	8	CO	Leaded Weatherpack Receptacle	Psw 014R psi CO H4 C7 Air Oil Fuel	8040257
60	50	NO	Leaded Metri-Pack Plug	Psw 060R psi NO H4 C2 Air Oil Fuel	8040215
60	50	NO	Leaded Weatherpack Receptacle	Psw 060R psi NO H4 C7 Air Oil Fuel	8040216
100	85	CO	Leaded Weatherpack Receptacle	Psw 100R psi CO H4 C7 Air Oil Fuel	8040256

Multi-purpose Pressure Switches: Specified by Falling Reset Point

1/4" NPT Housing

Set	Reset	Mode	Connector	Description	INDEX P/N
14	6	NC	Leaded Metri-Pack Plug	Psw 014F psi NC H3 C2 Air Oil Fuel	8040224
14	6	CO	Leaded Weatherpack Receptacle	Psw 006F psi CO H3 C6 Air Oil Fuel	8040258
18	10	CO	Leaded Weatherpack Receptacle	Psw 010F psi CO H3 C7 Air Oil Fuel	8040260
18	10	NC	Leaded Weatherpack Receptacle	Psw 010F psi NC H3 C7 Air Oil Fuel	8040223
75	65	NC	Leaded Metri-Pack Plug	Psw 065F psi NC H3 C2 Air Oil Fuel	8040237
85	75	NC	Leaded Metri-Pack Plug	Psw 075F psi NC H3 C2 Air Oil Fuel	8040238

1/8" NPT Housing

Set	Reset	Mode	Connector	Description	INDEX P/N
12	6	NC	Leaded Weatherpack Receptacle	Psw 006F psi NC H4 C7 Air Oil Fuel	8040310
15	6	CO	Flying Lead	Psw 006F psi CO H3 Cw Air Oil Fuel	8040265
15	6	CO	Flying Lead	Psw 006F psi CO H4 Cw Air Oil Fuel	8040250
15	7	NO	Tab Connector	Psw 007F psi NO H4 Cx Air Oil Fuel	8040218
16	8	CO	Leaded Weatherpack Plug	Psw 008F psi CO H4 C6 Air Oil Fuel	8040263
16	10	NC	Leaded Weatherpack Receptacle	Psw 010F psi NC H4 C7 Air Oil Fuel	8040272
18	10	NC	Leaded Weatherpack Plug	Psw 010F psi NC H4 C6 Air Oil Fuel	8040212
25	15	CO	Flying Lead	PSW 015F psi CO H4 Cw Air Oil Fuel	8040251
25	15	CO	Tab Connector	Psw 015F psi CO H4 Cx Air Oil Fuel	8040268
25	15	NC	Leaded Weatherpack Plug	Psw 015F psi NC H4 C6 Air Oil Fuel	8040221
55	40	NC	Flying Lead	Psw 040F psi NC H4 Cw Air Oil Fuel	8040246
75	60	CO	Flying Lead	Psw 060F psi CO H4 Cw Air Oil Fuel	8040266
75	60	CO	Flying Lead	Psw 060F psi CO H4 Cw Air Oil Fuel	8040252
90	65	CO	Leaded Weatherpack Receptacle	Psw 070F psi CO H4 C7 Air Oil Fuel	8040255
150	120	NC	Flying Lead	Psw 120F psi NC H4 Cw Air Oil Fuel	8040245

Heavy-Duty Pressure Switches for Cummins® Applications

1/4" NPT Housing

Mode	Connector	Cummins Equivalent	INDEX P/N
CO	Integrated Packard	3408609	8040410
CO	Integrated Packard	3408606	8040409

1/8" NPT Housing

Mode	Connector	Cummins Equivalent	INDEX P/N
CO	Integrated Packard	3408612 / 2897694	8040400
CO	Integrated Packard	3408613 / 2897695	8040424
CO	Integrated Packard	3408607 / 2897691	8040351
CO	Integrated Packard	3408614 / 4307059	8040426
CO	Integrated Packard	3408608 / 2897692	8040399
CO	Integrated Packard	3408619 / 2897696	8040406

All pressures in PSI. See definitions and connector key on page 6.

LIQUID LEVEL

Improve the reliability and operation of your vehicle. An engine leak can lead to costly repairs, rebuilds, or replacements. Index heavy-duty coolant sensors sense when the coolant level drops below the measuring point and provides input to a dashboard or ECM warning system.

Coolant Level Sensors

These sensors are available in 4-pin configurations and have 1/4" or 1/2" NPT Housing.

Connection	Thread Size	Output	INDEX P/N
Integrated Delphi/Aptiv	1/4-18 NPTF	0 - 12V	**8034112**
Integrated Delphi/Aptiv	1/4-18 NPTF	0 - 4V	**8034113**
Integrated Delphi/Aptiv	1/4-18 NPTF	0 - 5V	**8034114**
Integrated Delphi/Aptiv	1/2-14 NPTF	0 - 12V	**8034116**

Low Coolant Level Probes

These sensors are available in one-pin (case ground) and two-pin configurations.

Standard fittings: 1/4" NPT or 3/8" NPT
Terminal styles: Single threaded post with nut
Operating temperature range: -40° F to 257° F (-40° C to 125° C)

3/8" - NPT Housing

Connection	Reference Number		INDEX P/N
Screw Terminal	Medallion 5022-33990-01	Kysor 5022-01187-01	**8034100**

1/4" - NPT Housing

Connection	Reference Number		INDEX P/N
Screw Terminal	Medallion 5022-33670-03	Kysor 5022-01185-01	**8034101**
Integrated Deutsch			**8034109**

Water-in-Fuel

Index Water-in-Fuel probes ensure the engine will not falter due to improper liquids entering the engine. The driver is notified when water has collected in the fuel filter housing and can remove the water before it causes problems. Water-In-Fuel probes keep your engine running smoothly without costly repairs or downtime.

- **Brass housing or stainless steel**
- **Designed for A/C or low duty cycle plum D/C current**
- **Designed for low voltage applications**
- **Tested to ensure long life in coolant**
- **Single pin or dual pin**
- **Internal resistor available on two pin**

1/4" - NPT Housing

Connection	INDEX P/N
Integrated Deutsch	**8034107**

ELECTRONIC TEMPERATURE SWITCHES

Ideal for engines, transmissions, fuel, and fan control, Index Electronic Temperature Switches are designed to give you precise temperature control, indication, warning, alarm, and monitoring for thousands of heavy-duty applications. They are built to withstand tough conditions and remain highly accurate in extreme environments. With no moving parts to wear out, they keep operating through whatever situation they face. A solid state design assures years of accurate switching with quick response time. With the ability to combine and coordinate two functions in one device and have one or two independently specifiable temperatures, as well as offer reverse polarity protection.

Solid State Electronic Temperature Switches

◆ Single- or Dual-function Designs

Two outputs from one location assures coordination of functions through one device. Dual-function maximizes the use of limited installation ports.

- Single-function: shutter control, fan control, overtemp warning/engine shutdown, low transmission temperature (-10° to 32° F / -23° to 0° C), and fuel temperature.
- Dual-function provides two functions with a single port: overtemp warning/engine shutdown, fan control/shutter control.

◆ Versatile Performance

- Accurate to ±1.5°F.
- Functions from -20° to 230° F (-29° to 110° C).
- Fully custom set and reset points.
- Operates in a variety of fluids.
- Numerous fittings and connectors available.

Air-sensing Fan Drivers with special fast-response tip

1/2" NPT Housing

Set Point	Mode	Output Type	Connector	Description	Notes	INDEX P/N
150	NC	Sinking	Leaded Deutsch Plug	TE Air Snk 150 NC H1 C9 Intake Air Temp Sw		**8036154**
150	NC	Sourcing	Leaded Weatherpack Receptacle	TE Air Src 150 NC H1 C7 Intake Air Temp Sw		**8036186**
190	NO	Sourcing	Leaded Deutsch Plug & Receptacle	TE Air Src 190 NO H1 C8 Intake Air Temp Sw	Fan timer w/ external pressure switch input	**8036098**

With over 2,000 SKUs, many other parts are available – call or email for information.

Electronic Temperature Switches

Single- and Dual-Function Temperature Switches

1/2" NPT Housing

Function 1 Set Point	Mode	Function 2 Set Point	Mode	Output Type	Connector	Description	OEM	INDEX P/N
060	NC			Sourcing	Leaded Metri-Pack Plug	TE 1fn Snk 200 NC H1 C3 Nav 1516893C91		**8036128**
080	NC			Sourcing	Leaded Metri-Pack Receptacle	TE 1fn Snk 200 NO H1 C6		**8036043**
150	NC			Sourcing	Leaded Weatherpack Receptacle	TE 1fn Snk 200 NO H1 C7	Navistar 1621011C91	**8036157**
150	NO			Sourcing	Leaded Weatherpack Receptacle	TE 1fn Src 060 NC H1 C4		**8036152**
160	NO	200	NO	Sinking	Leaded Metri-Pack Plug	TE 1fn Src 080 NC H1 C3		**8036201**
172	NC	187	NC	Sinking	Leaded Metri-Pack Plug	TE 1fn Src 150 NC H1 C6 Nav 1621011C91		**8036217**
172	NC	187	NO	Sinking	Leaded Metri-Pack Plug	TE 1fn Src 150 NO H1 C7		**8036216**
185	NC			Sourcing	Leaded Metri-Pack Receptacle	TE 1fn Src 185 NC H1 C3		**8036200**
185	NC			Sourcing	Leaded Weatherpack Receptacle	TE 1fn Src 185 NC H1 C7 Nav 1621007C92	Navistar 1621007C92	**8036052**
185	NC	195	NC	Sourcing	Leaded Weatherpack Receptacle	TE 1fn Src 200 CO H0 Cx	Navistar 1621005C91	**8036143**
185	NC	195	NC	Sourcing	Flying Leads w/ Ring Terminals	TE 1fn Src 200 NC H1 C7	Navistar 1985130C91	**8036142**
195	NC	210	NC	Sinking	Leaded Metri-Pack Plug	TE 1fn Src 205 NC H1 C3 Volvo 3942759		**8036158**
200	NO	215	NO	Sinking	Leaded Weatherpack Receptacle	TE 1fn Src 205 NC H1 C7		**8036198**
200	NC			Sinking	Leaded Weatherpack Receptacle	TE 1fn Src 205 NO H1 C7 Nav 2016585C91	Navistar 1516893C91	**8036023**
200	NO			Sinking	Leaded Weatherpack Plug	TE 2fn Snk 160 NO 200 NO H1 C4		**8036205**
200	NO			Sinking	Leaded Weatherpack Receptacle	TE 2fn Snk 172 NC 187 NC H1 C4		**8036206**
200	CO			Sourcing	Screw Terminals	TE 2fn Snk 172 NC 187 NO H1 C4		**8036178**
200	NC			Sourcing	Leaded Weatherpack Receptacle	TE 2fn Snk 195 NC 210 NC H1 C4		**8036061**
205	NC			Sourcing	Leaded Metri-Pack Receptacle	TE 2fn Snk 200 NO 215 NO H1 C7	Volvo 3942759	**8036167**
205	NC			Sourcing	Leaded Weatherpack Receptacle	TE 2fn Snk 215 NO 220 NC H1 Cw		**8036056**
205	NO			Sourcing	Leaded Weatherpack Receptacle	TE 2fn Src 185 NC 195 NC Nav 1621005C91	Navistar 2016585C91	**8036058**
215	NO	220	NC	Sinking	None – bare wire	TE 2fn Src 185 NC 195 NC Nav 1985130C91		**8036213**

Cooling Fan Timer Temperature Control Switches

Controls engine fan when needed to cool the engine or reduce air conditioning system pressure. Contains a fan control temperature switch plus a time circuit that takes input from an Index A/C fan trigger switch. When needed by the A/C system, the fan stays on for 3 minutes to greatly reduce system pressure and prevent rapid fan cycling.

1/2" NPT Housing

Set Point	Mode	Output Type	Connector	Description	OEM	INDEX P/N
180	NC	Sourcing	Leaded Weatherpack Receptacle	TE fan timer 180 NC H1 C7 Nav 1688070C91	Navistar 1688070C91	**8036076**
195	NC	Sourcing	Leaded Deutsch Receptacle	TE fan timer 195 NC H1 C9 Volvo 3940177	Volvo 3940177	**8036165**
195	NO	Sourcing	Leaded Deutsch Plug & Receptacle	TE fan timer 195 NO H1 C8		**8036100**
200	NC	Sourcing	Leaded Deutsch Receptacle	TE fan timer 200 NC Ford F3HT-10B843-SA	Ford F3HT-10B843-SA	**8036083**
200	NC	Sourcing	Leaded Weatherpack Receptacle	TE fan timer 200 NC H1 C7		**8036078**
200	NC	Sourcing	Leaded Weatherpack Receptacle	TE fan timer 200 NC H1 C7 Nav 2011857C91	Navistar 2011857C91	**8036077**
200	NO	Sourcing	Leaded Weatherpack Plug	TE fan timer 200 NO H1 C6		**8036070**
200	NO	Sourcing	Leaded Weatherpack Plug	TE fan timer 200 NO H1 C6 Nav 2027243C1	Navistar 2027243C1	**8036071**
200	NO	Sourcing	Leaded Deutsch Plug & Receptacle	TE fan timer 200 NO H1 C8		**8036101**
205	NC	Sourcing	Leaded Weatherpack Receptacle	TE fan timer 205 NC H1 C7		**8036080**
205	NC	Sourcing	Leaded Weatherpack Receptacle	TE fan timer 205 NC H1 C7 Mack 1MR6546M	Mack 1MR6546M	**8036081**
205	NC	Sourcing	Leaded Weatherpack Receptacle	TE fan timer 205 NC H1 C7 Nav 1622647C91	Navistar 1622647C91	**8036079**
205	NC	Sourcing	Leaded Deutsch Receptacle	TE fan timer 205 NC H1 C9		**8036087**
205	NC	Sourcing	Leaded Deutsch Receptacle	TE fan timer 205 NC H1 C9 Volvo 3942809	Volvo 3942809	**8036169**
205	NC	Sourcing	Leaded Deutsch Receptacle	TE fan timer 205 NC H1 C9 Volvo 3942917	Volvo 3942917	**8036168**
205	NO	Sourcing	Leaded Weatherpack Plug	TE fan timer 205 NO H1 C6		**8036073**
205	NO	Sourcing	Leaded Deutsch Plug & Receptacle	TE fan timer 205 NO H1 C8		**8036103**
205	NO	Sourcing	Leaded Deutsch Plug	TE fan timer 205 NO H1 C8 air sw trigger		**8036094**
209	NO	Sourcing	Leaded Deutsch Plug & Receptacle	TE fan timer 208.5 NO H1 C8		**8036105**

All temperatures in degrees fahrenheit.
See definitions and connector key on page 6.

HEAVY-DUTY TEMPERATURE SWITCHES

The basic function of a mechanical temperature switch is to turn something on or off at a given temperature. Our temperature switches were designed for years of service under tough, high duty-cycle conditions.

With Index Temperature Switches, you get more than just the basics. We build switches to deliver improved performance and cost control for your engine, vehicle, or equipment.

Heavy-Duty Temperature Switches

Because vibration sensitivity can significantly shorten the life of both a temp switch and your equipment, Index Temperature Control Switches put up a double line of defense against vibration with two snap-action elements. Crisp-response dual-temperature discs trigger a heavy-duty contact, assuring clean, no-chatter electrical switching. Both elements can deliver up to a million cycles or more

◆ Efficiency from Precise Temperature Control

Chances are there are particular set and reset temperatures that are optimal for your application, where energy and operating cost efficiencies are maximized. With Index switches' tight tolerances, fast response, and specifiable reset points, your equipment runs precisely and evenly, at just the right temperature.

◆ Long Life and Vibration Resistance

We designed our Temperature Switches for years of service under tough, high duty-cycle conditions.

◆ Temperature Control, Indication, Warning, Alarm, and Monitoring for:

- Engine cooling fans
- Transmissions
- Heating elements
- Heat exchange valve actuation
- Accessory implement monitoring & interlocks
- Dashboard overtemp indicators
- Water reservoirs
- Radiator shutters
- Hydraulic fluid

With over 2,000 SKUs, many other parts are available – call or email for information.

Heavy-Duty Temperature Switches

Heavy-Duty Temperature Switches

Two Terminals – 1/2" NPT Housing

Temp	Mode	Connector	Direct Replacement Medallion P/N	Old Kysor P/N	Direct Replacement Horton P/Ns	Can also replace these Medallion P/Ns*	INDEX P/N
105	NO	Integrated 8-32 Screw			15949		8037106
120	NO	Integrated 8-32 Screw	1002-05850-16				8037134
150	NO	Integrated 8-32 Screw	1002-05554-22	1002-05850-22	993662, 15953		8037013
160	NO	Integrated 8-32 Screw			993656, 16452		8037240
165	NO	Integrated 8-32 Screw	1002-05554-25	1002-05850-25			8037108
180	NO	Integrated 8-32 Screw	1002-05554-28	1002-05850-28	993615, 15944		8037014
185	NO	Integrated 8-32 Screw	1002-05554-29	1002-05850-29	993616, 15942	1002-07988-29	8037018
190	NO	Integrated 8-32 Screw	1002-05554-30	1002-05850-30	993617, 15943	1002-07988-30	8037022
195	NO	Integrated 8-32 Screw	1002-05554-31	1002-05850-31	993653, 15957	1002-07988-31	8037026
200	NO	Integrated 8-32 Screw	1002-05554-32	1002-05850-32	993654, 15954	1002-07988-32	8037030
200	NO	Leaded Metri-Pack Receptacle					8037225
205	NO	Integrated 8-32 Screw	1002-05554-33	1002-05850-33	993655, 15940, 15954	1002-07988-33	8037034
210	NO	Integrated 8-32 Screw	1002-05554-34	1002-05850-34	993624, 15947	1002-07988-34	8037037
215	NO	Integrated 8-32 Screw	1002-05554-35	1002-05850-35	993625, 15945	1002-07988-35	8037184
220	NO	Integrated 8-32 Screw	1002-05554-36	1002-05850-36	993626, 15948	1002-07988-36	8037041
250	NO	Integrated 8-32 Screw	1002-05554-42	1002-05850-42			8037111
300	NO	Integrated 8-32 Screw	1002-05554-52	1002-05850-52	15946		8037112
165	NC	Integrated 8-32 Screw	1002-07393-25				8037107
185	NC	Integrated 8-32 Screw	1002-07393-29		993619, 15952	1002-07479-29	8037016
190	NC	Integrated 8-32 Screw	1002-07393-30		993603, 15939	1002-07479-30	8037020
195	NC	Integrated 8-32 Screw	1002-07393-31		993605, 15949	1002-07479-31	8037024
200	NC	Leaded Metri-Pack Receptacle					8037188
200	NC	Integrated 8-32 Screw	1002-07393-32		993606, 15941	1002-07479-32	8037028
205	NC	Integrated 8-32 Screw	1002-07393-33		993607, 15940	1002-07479-33	8037032
210	NC	Integrated 8-32 Screw	1002-07393-34			1002-07479-34	8037036
215	NC	Integrated 8-32 Screw	1002-07393-35		993665	1002-07479-35	8037039
220	NC	Integrated 8-32 Screw	1002-07393-36			1002-07479-36	8037040

Three Terminals – 1/2" NPT Housing

Temp	Mode	Connector	Other Equivalents	INDEX P/N
180	CO	Integrated 8-32 Screw		**8037044**
185	CO	Integrated 8-32 Screw	Nav 1685131C92	**8037045**
190	CO	Integrated 8-32 Screw		**8037048**
195	CO	Integrated 8-32 Screw	Nav 1685132C92	**8037050**
200	CO	Integrated 8-32 Screw		**8037053**
205	CO	Integrated 8-32 Screw	Nav 1685171C92	**8037055**
210	CO	Leaded Weatherpack Receptacle		**8037228**
220	CO	Integrated 8-32 Screw		**8037061**

** Replace Metri-Pack connector on harness with ring terminals.*
All temperatures in degrees fahrenheit. See definitions and connector key on page 6.

Heavy-Duty Temperature Switches

Heavy-Duty Temperature Switches

Two Terminals – 3/8" NPT Housing

Temp	Mode	Connector	Direct Replacement Medallion P/N	Old Kysor P/N	Direct Replacement Horton P/Ns	Can also replace these Medallion P/Ns*	INDEX P/N
180	NO	Integrated 8-32 Screw	1002-05825-28				**8037183**
195	NO	Integrated 8-32 Screw		993610	P-1602		**8037082**
220	NO	Leaded Weatherpack Receptacle					**8037163**
250	NO	Leaded Weatherpack Receptacle					**8037169**
150	NC	Integrated 8-32 Screw	1002-07393-22			1002-07479-22	**8037121**

Three Terminals – 3/8" NPT Housing

Temp	Mode	Connector	Direct Replacement Medallion P/N	Can also replace these Medallion P/Ns*	INDEX P/N
140	NC	Integrated 8-32 Screw	1002-04880-20		**8037142**
160	CO	Integrated 8-32 Screw	1002-04880-24		**8037090**
180	CO	Integrated 8-32 Screw	1002-04880-28		**8037175**
185	CO	Integrated 8-32 Screw	1002-04880-29		**8037176**
190	CO	Integrated 8-32 Screw	1002-04880-30	102-07955-30	**8037177**
195	CO	Integrated 8-32 Screw	1002-04880-31	102-07955-31	**8037093**
200	CO	Integrated 8-32 Screw	1002-04880-32	102-07955-32	**8037178**
205	CO	Integrated 8-32 Screw	1002-04880-33	102-07955-33	**8037179**
210	CO	Integrated 8-32 Screw	1002-04880-34	102-07955-34	**8037180**
215	CO	Integrated 8-32 Screw	1002-04880-35	102-07955-35	**8037098**
220	CO	Integrated 8-32 Screw	1002-04880-36	102-07955-36	**8037099**
225	CO	Integrated 8-32 Screw	1002-04880-37	102-07955-37	**8037126**
240	CO	Integrated 8-32 Screw	1002-04880-40	102-07955-40	**8037127**
250	CO	Integrated 8-32 Screw	1002-04880-42	102-07955-42	**8037224**
255	CO	Integrated 8-32 Screw	1002-04880-43		**8037181**

Heavy-Duty Switches for Cummins® Applications

Three Terminals – 1/2" NPT Housing

Temp	Mode	Connector	Cummins Equivalents	INDEX P/N
90	CO	Integrated Packard	3408645	**8037317**
150	CO	Integrated Packard	3408634	**8037372**
160	CO	Integrated Packard	3408643	**8037316**
185	NO	Integrated Packard	3408624	**8037318**
185	CO	Integrated Packard	3408639	**8037322**
200	CO	Integrated Packard	3408632	**8037375**
200	CO	Integrated Packard	3408636	**8037380**
210	CO	Integrated Packard	3408625	**8037445**
215	CO	Integrated Packard	3408626	**8037319**
215	CO	Integrated Packard	3408629	**8037374**
205	CO	Integrated Packard	3408631	**8037321**
223	CO	Integrated Packard	4954948	**8037429**
223	CO	Integrated Packard	3408627	**8037320**
223	NO	Integrated Packard	3408635	**8037377**

With over 2,000 SKUs, many other parts are available – call or email for information.

Heavy-Duty Temperature Switches

Overtemp Warning Switches

One Terminal – 1/2" NPT Housing

Temp	Mode	Connector	Direct Replacement Medallion P/N	Can also replace these Medallion P/Ns*	Other Equivalents	INDEX P/N
160	NO	Integrated 8-32 Screw				**8039076**
180	NO	Integrated 8-32 Screw	1002-05511-28	1002-07690-28, 1002-07324-28		**8039057**
190	NO	Integrated 8-32 Screw	1002-05511-30	1002-07690-30, 1002-07324-30		**8039058**
195	NO	Integrated 8-32 Screw	1002-05511-31	1002-07690-31, 1002-07324-31		**8039064**
200	NO	Integrated 8-32 Screw	1002-05511-32	1002-07690-32, 1002-07324-32		**8039065**
205	NO	Integrated 8-32 Screw	1002-05511-33	1002-07690-33, 1002-07324-33		**8039054**
210	NO	Integrated 8-32 Screw	1002-05511-34	1002-07690-34, 1002-07324-34		**8039014**
215	NO	Integrated 8-32 Screw	1002-05511-35	1002-07690-35, 1002-07324-35		**8039019**
220	NO	Integrated 8-32 Screw	1002-05511-36	1002-07690-36, 1002-07324-36		**8039023**
225	NO	Integrated 8-32 Screw	1002-05511-37	1002-07690-37, 1002-07324-37		**8039025**
230	NO	Integrated 8-32 Screw	1002-05511-38	1002-07690-38, 1002-07324-38		**8039026**
250	NO	Integrated 8-32 Screw	1002-05511-42	1002-07690-42, 1002-07324-42		**8039066**
260	NO	Integrated 1/4" Spade				**8039078**
300	NO	Integrated 8-32 Screw	1002-05511-52	1002-07690-52, 1002-07324-52		**8039029**
185	NC	Integrated 8-32 Screw			Thomas 61230658	**8039050**
190	NC	Integrated 8-32 Screw	1002-05768-30	1002-07474-30, 1002-07449-30		**8039010**
195	NC	Integrated 8-32 Screw	1002-05768-31	1002-07474-31, 1002-07449-31		**8039056**
200	NC	Integrated 8-32 Screw	1002-05768-32	1002-07474-32, 1002-07449-32		**8039067**
205	NC	Integrated 8-32 Screw	1002-05768-33	1002-07474-33, 1002-07449-33		**8039068**
210	NC	Integrated 8-32 Screw	1002-05768-34	1002-07474-34, 1002-07449-34		**8039012**
215	NC	Integrated 8-32 Screw	1002-05768-35	1002-07474-35, 1002-07449-35		**8039017**
220	NC	Integrated 8-32 Screw	1002-05768-36	1002-07474-36, 1002-07449-36		**8039021**

One Terminal – 3/8" NPT Housing

Temp	Mode	Connector	Direct Replacement Medallion P/N	Can also replace these Medallion P/Ns*	Other Equivalents	INDEX P/N
165	NO	Integrated 8-32 Screw	1002-05811-25			**8039059**
190	NO	Integrated 8-32 Screw	1002-05811-30	1002-07700-30, 1002-07450-30		**8039071**
200	NO	Integrated 8-32 Screw	1002-05811-32	1002-07700-32, 1002-07450-32		**8039032**
205	NO	Integrated 8-32 Screw	1002-05811-33	1002-07700-33, 1002-07450-33		**8039051**
210	NO	Integrated 8-32 Screw	1002-05811-34	1002-07700-34, 1002-07450-34		**8039034**
215	NO	Integrated 8-32 Screw	1002-05811-35	1002-07700-35, 1002-07450-35		**8039052**
220	NO	Integrated 8-32 Screw	1002-05811-36	1002-07700-36, 1002-07450-36		**8039039**
225	NO	Integrated 8-32 Screw	1002-05811-37	1002-07700-37, 1002-07450-37		**8039041**
230	NO	Integrated 8-32 Screw	1002-05811-38	1002-07700-38, 1002-07450-38		**8039042**
250	NO	Integrated 8-32 Screw	1002-05811-42	1002-07700-42, 1002-07450-42		**8039045**
300	NO	Integrated 8-32 Screw	1002-05811-52	1002-07700-52, 1002-07450-52		**8039072**
200	NC	Integrated 8-32 Screw			Thomas 61230646	**8039031**
205	NC	Integrated 8-32 Screw	1002-05769-33	1002-07338-33, 1002-07476-33		**8039069**
210	NC	Integrated 8-32 Screw	1002-05769-34	1002-07338-34, 1002-07476-34		**8039070**
220	NC	Integrated 8-32 Screw	1002-05769-36	1002-07338-36, 1002-07476-36		**8039053**

** Replace Metri-Pack connector on harness with ring terminals.*
All temperatures in degrees fahrenheit. See definitions and connector key on page 6.

ORIGINAL EQUIPMENT SENSORS

How are sensors different from switches?
Sensors provide a wide variety of electrical signals to indicate (sense) many conditions and produce analog or digital information for for an ECU; while switches actuate a unit based on a predetermined temperature or pressure.

Index Sensors offer a wide range of configuration. From custom voltage ranges, to multiple output options.

Pressure Sensors

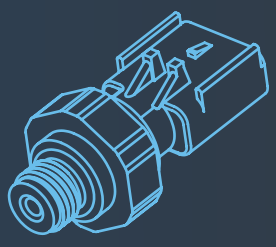
Index Pressure Sensors are custom designed for OE manufacturers for a variety of automotive and heavy duty applications. Each sensor is fully tested to ensure the output meets specifications. Index's IATF 16949:2016 Certification guarantees that every product meets strict quality requirements.

There are three possible types of pressure sensors related to how they measure the pressure:

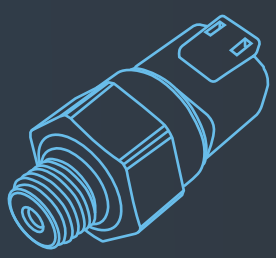
- **Absolute Pressure**
  This type of sensor measures the difference between a built-in vacuum reference and the pressure at the sensor port. The zero reading for an Absolute Pressure Sensor is in a complete vacuum. This type of sensor is typically used for intake manifold pressure or fuel pressure.

- **Gauge Pressure**
  This type of sensor measures the difference between ambient pressure and the sensor port. The zero reading for this type of sensor is always current (atmospheric) ambient pressure. This type is less expensive than absolute pressure and commonly used for engine oil pressure.

- **Sealed Gauge Pressure**
  This type of sensor measures the difference between a built in atmospheric pressure reference and the sensor port. This is very similar to a Absolute pressure sensor but has a zero at Atmospheric pressure instead of a vacuum.



Integrated Pressure Sensor



Integrated J1939 CAN Bus Pressure Sensor

With over 2,000 SKUs, many other parts are available – call or email for information.

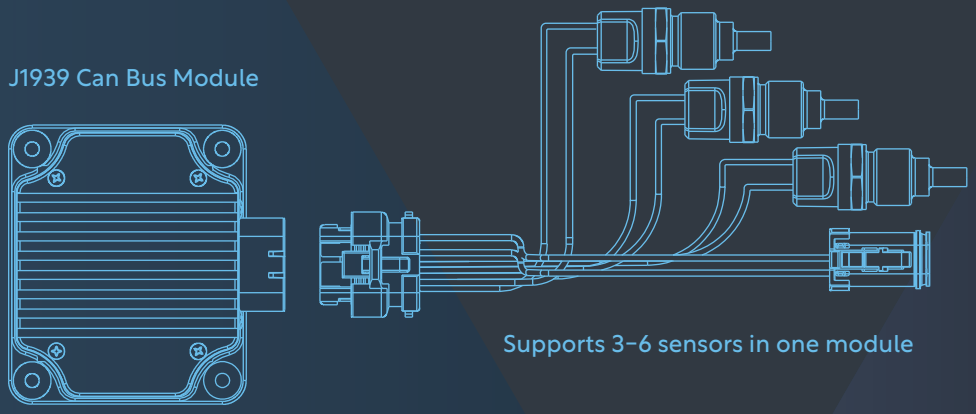
Original Equipment Sensors

Temperature Sensors

Temperature sensors have custom programmable outputs. They offer accurate, fast response with electromagnetic noise resistance. Configurations can have either single or dual outputs (sourcing or sinking); Analog or PWM output with multiple functions in 1 device or SAE J1939 CAN-Bus communications.

Applications include: Engine intake air sensing, Cooling fan & warning light, High- and Low- temp interlocks, Time-delay switching, HVAC control, Hydraulic fluid limits, Engine oil temp, Transmission fluid temp, Differential fluid protection.

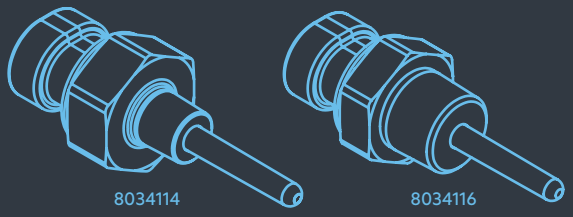
J1939 Can Bus Module



Supports 3-6 sensors in one module

Coolant Level Sensor

Used to detect the coolant level in a plastic or metal coolant tank. This is typically a water and antifreeze mixture used to cool an internal combustion engine.

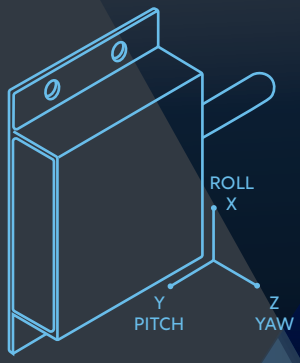


8034114 8034116

The signal from the sensor is primarily connected to the electronic engine controller (ECM). Low coolant will cause an alarm and for some vehicles will result in an engine shut-down.

SAE J1939 Inclinometer

The Inclinometer is an electronic device that measures the incline of a vehicle. It is designed to communicate and share information with the onboard vehicle computer. It is designed for installation on the external chassis frame environment and is packaged in a rugged housing designed to withstand severe environmental conditions.



The Inclinometer measures the acceleration forces on the vehicle in 3 axes (x,y,z) as well as the rate of change of the angular position of the vehicle in 3 axes using a built in MEMS sensor. An embedded processor computes the current pitch and roll angles based on these raw inputs. The resulting information is filtered to reduce the effects of the chassis vibration bounce to provide a best fit estimate of the current road slope in the direction of travel (pitch) and perpendicular to the direction of travel (roll).

Composed of an electronic control module using a 6 state MEMS sensor that will determine the current road grade (angle in degrees). The information is compiled and sent to the vehicle's ECU over a J1939 CAN connection.

Aftermarket Direct Replacement Sensors

Temperature Sensors (Direct Replacement)

OEM	OEM P/N	INDEX P/N
Caterpillar	1022240	8062005
Cummins	3085185	8062006
Cummins	3408346	8062053
Cummins	3865312	8062024
Cummins	3865346	8062054
Cummins	4921473	8062009
Cummins	4921475	8062003
Detroit Diesel	23514708	8062075
Detroit Diesel	23515250	8062030
Detroit Diesel	23515251	8062031
Detroit Diesel	23518092	8062035
Freightliner	147584	8062072

OEM	OEM P/N	INDEX P/N
Freightliner	2254800000	8062007
Kenworth	K379-12	8062073
Kenworth	Q21-1002	8062076
Navistar	1675751C1	8062040
Peterbuilt	144455	8062004

ABS / Position Sensors (Direct Replacement)

OEM	OEM P/N	INDEX P/N
Bendix	801541	8065000
Bendix	801542	8065085
Bendix	801545	8065070
Bendix	801546	8065077
Bendix	801547	8065071
Bendix	801548	8065076
Bendix	801549	8065079
Bendix	801550	8065083
Bendix	801551	8065074
Bendix	801552	8065084
Bendix	801553	8065075
Caterpillar	2016615	8065009
Caterpillar	2454630	8065010
Cummins	2872277	8065025
Cummins	4921599	8065007
Cummins	4984223	8065003
Detroit Diesel	8929387	8065005
Detroit Diesel	8929388	8065008
Haldex	919801	8065066
Haldex	919802	8065067
Haldex	919803	8065068
Haldex	919804	8065069
Mack	20706327	8065011
Mack	25166488	8065012
Meritor	R955329	8065013
Meritor	R955335	8065001
Meritor	R955336	8065073

OEM	OEM P/N	INDEX P/N
Meritor	R955338	8065082
Meritor	R955341	8065081
Meritor	R955342	8065002
Meritor	R955608	8065087
Meritor	S4410321840	8065059
Meritor	S4410323810	8065052
Meritor	S4497130300	8065063
Meritor	S4497130500	8065065
Navistar	1835985C92	8065024
Navistar	1876735C91	8065029
Navistar	1876736C91	8065030
Navistar	1885812C91	8065006
Volvo	21508269	8060003

Pressure Sensors (Direct Replacement)

OEM	OEM P/N	INDEX P/N
Caterpillar	1946724	8061003
Caterpillar	1946725	8061004
Caterpillar	2244536	8061006
Caterpillar	2482169	8061007
Caterpillar	2746718	8061008
Caterpillar	2746719	8061009
Caterpillar	2842728	8061010
Cummins	2871960	8061022
Cummins	2897331	8061057
Cummins	3084521	8061019
Cummins	3330141	8061029
Cummins	4076493	8061015
Cummins	4902720	8061060
Cummins	4921487	8061026
Cummins	4921493	8061040
Cummins	4921495	8061024
Cummins	4921499	8061073
Cummins	4921501	8061020
Cummins	4921511	8061087
Cummins	4921517	8061011
Cummins	4928593	8061077
Cummins	4928594	8061023
Detroit Diesel	23528418	8061088
Detroit Diesel	23532797	8061047
Freightliner	2482165	8061018
Freightliner	23527829	8061021
Navistar	1807369C2	8061027
Navistar	1830669C92	8061025
Navistar	1839415C91	8061028
Navistar	1840078C1	8061012
Navistar	1846481C92	8061013
Navistar	1850351C1	8061014
Navistar	3C3Z9F838EA	8061076
Navistar	5C3Z9J460B	8061016
Volvo	1077574	8061030

Level Sensors (Direct Replacement)

OEM	OEM P/N	INDEX P/N
Cummins	4903489/3612521	8034112
Cummins	4383932	8034113
Detroit Diesel	23520380	8060004
Freightliner	06-62384-002	8060005
Mack	25174715	8060007

Index supplies many other direct replacement sensors to the aftermarket.
For more information, call (800) 726-1737 or email us at customersupport@indexsensors.com

GLOSSARY

SWITCH MODE
The setting of the switch contacts at ambient pressure or temperature. Index switches offer three modes: Normally Open, Normally Closed, and Common (both NO and NC).

NO (Normally Open)
A switch that does not conduct electricity at ambient conditions (contacts open) until it reaches its set point, at which point the contacts close and electrical current flows.

NC (Normally Closed)
A switch that conducts electricity at ambient conditions (contacts closed) until it reaches its set point, at which point the contacts open and the electrical current stops.

CO (Common)
A switch with both Normally Closed and Normally Open outputs having the same set and reset points. In the case of mechanical switches, these are 3-terminal devices, also described as **single-pole, double-throw (SPDT).**

ELECTRICAL ENVIRONMENT
Index switches are designed for 12 to 24 volts nominal DC systems and have been designed to meet all applicable SAE standards.

DIFFERENTIAL
The pressure or temperature difference between the contact actuation set point and the contact de-actuation reset point. Also sometimes referred to as **hysteresis**.

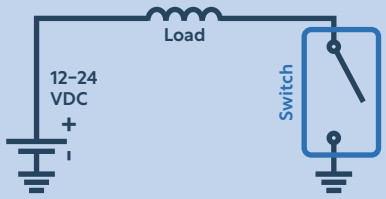
SINKING VS SOURCING CIRCUIT
Refers to the position of the switch in an electrical circuit with respect to power, load and ground.

Sinking: switches are wired between the load and ground.

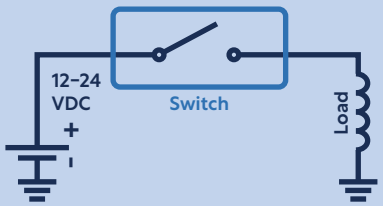
Sourcing: switches are wired between power and the load.

Mechanical switches can generally be wired in both Sinking or Sourcing positions. Electronic switches and controls are designed as either Sinking (only) or Sourcing (only) devices.

SINKING



SOURCING



HIGH PRESSURE CUTOUT SWITCH
Prevents A/C system damage due to excessive pressure by disabling the A/C compressor when pressure exceeds the set point. Allows the compressor to resume when the pressure drops below the reset point. Mounted on or near the receiver dryer.

LOW PRESSURE CUTOUT SWITCH
Prevents system damage due to low pressure or low refrigerant charge by disabling the A/C compressor when pressure drops below the reset point. Allows the compressor to resume when the pressure rises above the set point. Mounted on the low-pressure side of the compressor.

NOMINAL PRESSURE (REFERRING TO RISING SET VERSUS FALLING RESET POINT)
Nominal operating pressure is designated based on what is the most important for the switch's function. For switches responding to decreasing pressure conditions, the falling reset point should be designated as nominal. For switches responding to increasing pressure conditions, the rising set point should be designated as nominal.

SET POINT
The pressure or temperature at which the switch changes electrical contact state (closed to open, or open to closed) when the pressure or temperature is rising.

RESET POINT
The pressure or temperature at which the switch changes electrical contact state (closed to open, or open to closed) when the pressure or temperature is falling.

TEMPERATURE EXPOSURE RANGE
The range of temperatures which switches can operate normally. Index's standard exposure range is -40° F and 257° F (-40° C to 125° C).

INDUCTIVE LOAD
An electrical load from coil-type devices such as solenoids, relays, and electromagnetic clutches. When an inductive circuit is switched open, the energy stored in the coil rushes backwards through the circuit. This sometimes causes arcing at the electric contacts.

RESISTIVE LOAD
An electrical load from devices such as heaters or lights. Resistive loads draw electrical current in one direction through the circuit.

PROOF PRESSURE
The maximum pressure that can be applied to a pressure switch without harming its operating characteristics. A switch's proof pressure should exceed the system's maximum pressure under expected normal operating conditions (including pressure spikes). Standard proof pressure for Index pressure switches is 650 psi.

BURST PRESSURE
The maximum pressure that can be applied to a pressure device without risking catastrophic damage. A switch's burst pressure should exceed the maximum potential pressure in the system, including under abnormal conditions. Index burst pressures are validated within the switch temperature range (-40° to 257° F). Standard burst pressure for Index pressure switches is 975 psi.

Limited Product Warranty

Index warrants all of its products to be free from defects in material and workmanship under normal use and service. Any part which proves to be defective in material or workmanship within the Warranty period covering the specific product to which the Warranty applies as specified below, will be repaired or replaced, at Index's option, with a new or functionally operative part.

General Conditions

INDEX's liability under this Limited Warranty shall be limited to repairing or replacing at its own factory or through an authorized service distributor or dealer, material which is determined by INDEX to have been defective in manufacture and upon which a claim has been made by the original purchaser or user to Index (or an authorized distributor or dealer) within the Warranty period. Claims under this Limited Warranty will be honored only if the product is returned within 90 days of the date that the part was determined to be defective. INDEX specifically assumes no responsibility for labor charges unless prior authorization has been granted before the labor has been performed. Approved return of parts or products will be on a prepaid transportation charge basis only and non-defective products will be returned collect. Claims under this Limited Warranty will be honored only upon return of product and INDEX's determination that the claim is covered by this Limited Warranty, and Index shall incur no obligation under this Limited Warranty prior to such determination. This Limited Warranty does not apply to any device or component which has been (i) altered or repaired, except by INDEX or its authorized representatives ; (ii) subject to misuses, negligence, or accident, including, without limitation, use and operation of such machinery or equipment while any parts are loose, broken, out of order, or damaged by the elements, or (iii) used for a purpose for which it was not designed or used in conjunction with other products not approved for use by INDEX, or (iv) rendered inoperative due to miswiring or due to broken wires, or related connectors. Parts replaced under this Limited Warranty are warranted only through the remainder of the original Limited Warranty. Any and all claims for Warranty service must include such information as Index designates, and shall include specifically the part number and date code of each unit (if appropriate).

Recovery Payment Terms (Parts, Labor, Freight)

Parts: Parts returned and verified as failed, by Index, are reimbursed at sales price
Labor: Labor is reimbursed by applying a standard shop rate of $65/hour x ½ hour/unit
Freight: Index reimburses actual freight costs on parts returned and verified as failed

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Warranty Periods

Unless otherwise documented, INDEX products are warranted for a period of **two (2) years** from the date of installation. If the date of installation or resale cannot be documented, the date of installation will be assumed to be ninety days after the manufacturing date coded on the product.

4046009 Rev. G

NOTES

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