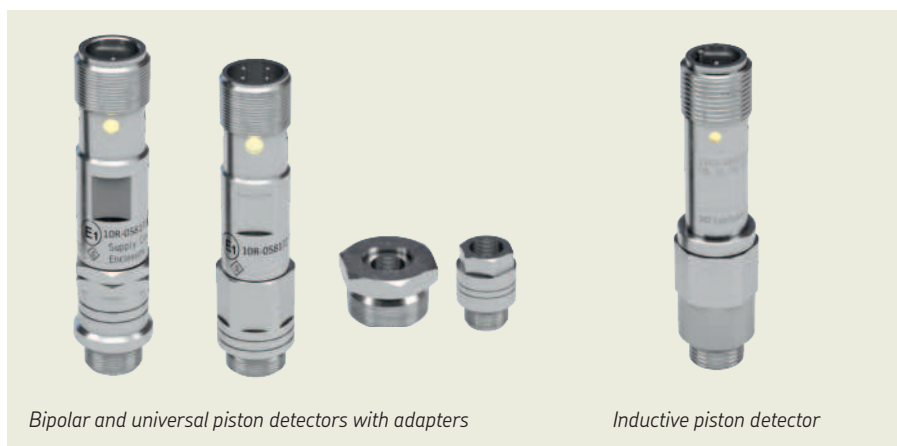


# SKF Lincoln piston detectors

For function monitoring of lubricant metering devices in automatic lubrication systems



*Bipolar and universal piston detectors with adapters*

*Inductive piston detector*



*SSV metering device with universal piston detector and adapter*

A series of piston detectors helps monitor the operation of centralised lubrication systems.

**Universal and bipolar piston detectors** are magnetic position sensors that are screwed into the metering device via a relevant pressure-resistant adapter. They detect the piston by means of the closed adapter without coming into direct contact with it and adjust themselves independently after several distribution strokes. For this reason, hydraulic pressure peaks do not act directly on the frontal sensor surface of the piston detectors.

Different adapters are available, depending on the distributor series. The universal piston detector automatically detects the customer's plug or cable assignment, 2- or 3-wire version (with cable break protection). The bipolar piston detector is available in a 2-wire version. The signal voltage can be applied to pin 1 or pin 4, so this sensor can be used for mobile applications such as vehicles or agricultural and construction machinery.

The **inductive piston detector** performs a similar task but can be connected directly to the metering device – with no need for an adapter. It offers better resistance against magnetic fields, so is more stable in the presence of EMC interference. This makes it suitable for use with valve terminals. It is available in a 3-wire version, with a 2-wire version under development.

Thanks to their technology, these innovative devices are ideal for applications including wind turbines, mining, steel, pulp and paper mills, food and beverage, machine tools, mobile applications and stationary railway applications.

## Advantages:

- Improved and more precise detection of the distributor piston
- Can be used in lubrication systems with high operating pressures
- The adapter separates the lubricating medium from the sensor, thereby permitting replacement of the piston detector at the pressurised distributor as well
- Resistant to short-circuits and overloading
- Suitable for mounting on progressive and dual-line metering devices or on single-line metering device SLC
- Inductive sensor offers better resistance against strong external magnetic field
- Efficient storage for all models

**Main properties:**

- Suitable for extreme temperatures (−40 to +85 °C, −40 to +185 °F)
- CE, UL, CSA and E1
- High IP protection rating, depending on the cable socket used: IP65 to IP69K
- LED display for distributor stroke
- Supply voltage: 10 to 36 V DC
- Available in 2- or 3-wire versions, depending on model

**Technical data**

Sensor type	Universal	Bipolar	Inductive
Function principle	Magnetic sensor	Magnetic sensor	Inductive sensor
Electrical design	3-wire DC PNP 2-wire DC PNP/NPN	2-wire DC PNP/NPN	3-wire DC PNP
Material (housing)	stainless steel 1.4016	1.4016	V4A (1.4571)
Material (active area)	stainless steel 1.4404	1.4404	
Material (plug)	PEI	PEI	
Temperature range	−40 to +85 °C (−40 to +185 °F)		−40 to +80 °C (−40 to +176 °F)
Lubricants	Greases up to NLGI class 2 (3); Synthetic and mineral oils		
Pressure <sup>1)</sup>	up to 400 bar (5800 psi)		
Protection class <sup>2)</sup>	IP65 / IP68 / IP69K		IP67
Switching function	normally open contact		
Type of connection	M12x1 A-coded		
Operating voltage UB	10–36 V DC		
Switching status display	LED yellow		
Switching frequency	max. 10 Hz		max. 200 Hz
Magnetic field compatibility	−0.5 to +0.5 mT		−50 to +50 mT
Short-circuit protection	•	•	•
Reverse polarity protection	•	•	•
Overload-proof	•	•	•

<sup>1)</sup> depending on metering device

<sup>2)</sup> with cable box screwed on properly

## Order details inductive piston detectors

The inductive piston detectors can be ordered as kit with O-ring. A cable socket with M12x1 socket is available separately (→ Table 1).

**Table 1****Kits with inductive piston detector, O-ring and manual**

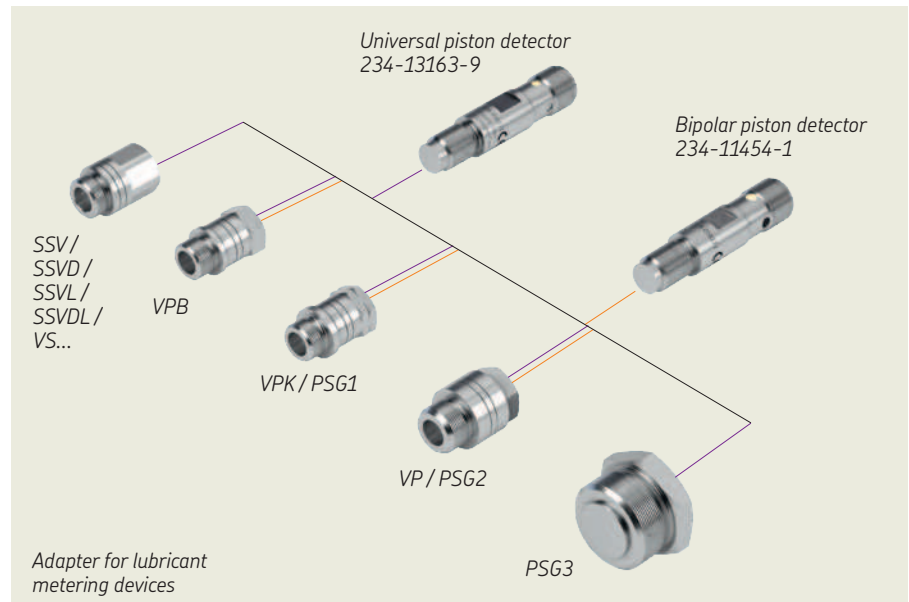
Order number	For metering device
<b>5781-00000003</b>	VPB
<b>5781-00000002</b>	VPK / PSG1
<b>5781-00000001</b>	VP / PSG2
<b>5190-00000008</b>	SSV / SSVD / SLC / VSG / VSL
<b>237-13442-4</b>	Cable socket with M12x1 socket

## Order details universal and bipolar piston detectors

The piston detectors can be ordered separately, i.e. without adapter, O-ring and cable. A cable socket with M12x1 socket is also available (→ **Table 2**).

The piston detectors can also be ordered as kits with the appropriate distributor adapter and O-ring (→ **Table 3**).

Furthermore, the universal piston detectors for metering devices of the SSV, SSVL, SSVD, SSVDL and VS...-NP series are available as kits with O-ring, adapter and adapter cable in various connections and cable lengths (→ **Table 4**).



**Table 2**

### Piston detectors

Order number	Description
<b>234-13163-9</b>	Universal piston detector
<b>234-11454-1</b>	Bipolar piston detector
<b>237-13442-4</b>	Cable socket with M12x1 socket

Further electrical connections  
→ **Brochure 1-1730**

**Table 3**

### Kits with piston detector, O-ring and adapter for lubricant metering devices

Order number	Type Piston detector	for metering devices
<b>24-0159-6025</b>	Universal	VP / PSG2
<b>24-0159-6021</b>	Bipolar	VP / PSG2
<b>24-0159-6024</b>	Universal	VPK / PSG1
<b>24-0159-6022</b>	Bipolar	VPK / PSG1
<b>24-0159-6023</b>	Universal	VPB
<b>24-0159-6028</b>	Bipolar	VPB
<b>24-0159-6026</b>	Universal	PSG3
<b>519-85224-1</b>	Universal	SSV / SSVL / SSVD / SSVDL / VS...*

\* For dual-line metering devices series VS..., please contact your local lubrication service team.

**Table 4**

### Kits with universal piston detector, O-ring, adapter cable and adapter for lubricant metering devices SSV / SSVL / SSVD / SSVDL / VS...

Order number	Adapter cable	Cable length
		m
<b>664-85242-4</b>	open cable end, 4-wire	10
<b>664-85242-7</b>	open cable end, 4-wire	5
<b>664-85282-9</b>	Wire end ferrule	10
<b>664-85282-8</b>	Wire end ferrule	5
<b>664-85282-7</b>	Wire end ferrule	3
<b>664-85282-6</b>	Wire end ferrule	2
<b>664-85282-5</b>	Wire end ferrule	0.6
<b>664-85290-2</b>	Wire end ferrule, marked, 2-wire	1.8
<b>664-85290-1</b>	Wire end ferrule and corrugated tube, 2-wire	3
<b>664-85242-6</b>	Bayonet connector, 4/2-pole	30
<b>664-85290-4</b>	Bayonet connector, 4/2-pole	10
<b>664-85242-5</b>	Bayonet connector, 4/2-pole	7
<b>664-85242-2</b>	Bayonet connector, 4/2-pole	3
<b>664-85290-5</b>	Bayonet connector, 4/2-pole	0.4
<b>664-85242-9</b>	AMP plug, 4/2-pole	12
<b>664-85242-8</b>	AMP plug, 4/2-pole	7
<b>664-85242-3</b>	AMP plug, 4/2-pole	3
<b>664-85282-2</b>	Deutsch plug 04-2P, 2-pole	5
<b>664-85282-1</b>	Deutsch plug 04-2P, 2-pole	3
<b>664-85242-1</b>	Deutsch plug 04-2P, 2-pole	0.3
<b>664-85282-3</b>	Deutsch plug 06-2S, 2-pole	5
<b>664-85290-3</b>	M12 plug, A-coded	5



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