

Системы позиционирования PGV, PCV, PXV

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PosiTrack

PCV/PGV

Absolute Positioning Systems



Highlights:

PosiTrack absolute linear encoder systems use optic technology to provide fraction-of-a-millimeter position feedback in a diverse group of applications.

An Alternative to Rotary Encoders

PCV systems scan specially coded track or tape to determine the carrier mechanism's position. Because the scanning is optic-based and contact-free, mechanical wear and errors due to misalignment are eliminated.

PCV systems emulate 512 turn, 1024 pulse-per-revolution encoders and communicate via industry-standard control protocols such as RS485, SSI, DeviceNet, PROFIBUS DP, EtherNet/IP, and parallel (binary or Gray code).

System Options – PCV

WCS uses a thru-beam infrared LED array to scan a uniquely coded reference rail. It provides +/- 0.4 mm accuracy over travel distances to 1,030 feet.

PCV scans a custom Data Matrix tape using 2-D camera technology. Continuous position feedback to distances of 6 miles is possible, with accuracy to +/- 0.1 mm. Both systems feature read speeds up to 41 ft/s and an ultra-quick response time of a few milliseconds.

PGV – The Optimal Solution for AGVs

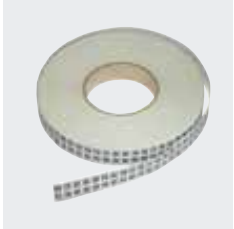
The PGV automated guided vehicle positioning system detects different colored route-tracking tape/paint and Data Matrix codes to provide navigation and absolute position feedback with ± 0.2 mm resolution.

In addition to continuous X, Y position feedback, the PGV provides 360° of angular feedback.



PCV Read Head

The PCV read head uses a noncontact 2-D camera and LEDs to read and decode position and identification codes on self-adhesive code tape. Unlike laser beams, the camera can read along small curve radii as well as inclines and declines. Maximum travel speeds of 12.5 m/s are possible. It's available in SSI, PROFINET, CANopen, EtherNet/IP and RS485 protocols.



PCV and PGM Positioning Tape

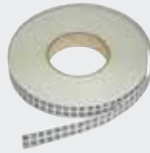
The PCV or PGM system replaces the code rail with a positioning tape that is a chemically resistant, self-adhesive strip with Data Matrix codes. It's available in lengths up to 6 miles and in versions with 1, 2, or 4 rows of Data Matrix codes for reliable vertical and horizontal position feedback. The majority of the code squares can be damaged or obscured without loss of readability. Temporary replacement code strips are easily generated from any printer using an online program.



PGV System

The PGM automated guided vehicle positioning system is the only product offering a combination of navigation, identification, and absolute position feedback in one device. It uses a 2-D camera to scan both routing tape strips and data matrix codes to provide navigation and absolute position feedback with ± 0.2 mm resolution. The X and Y position, speed, and vehicle turn angle, together with the operating status are accurately controlled at all times.

PCV – Absolute Positioning System

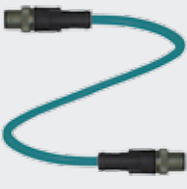
							
Read Head			Code Tape	Event Markers	Serial Interface Adapters		Vision Configurator Software
Model	PROFIBUS	PCV80-F200-B6-V15B PCV100-F200-B6-V15B-6011	PCV**M-CA20-0 ** =Tape length (meters)	PCV-CM20-*** *** = Marker number	RS485	PCV-USB-RS485-Converter	
	PROFINET	PCV50-F200-B17-V1D PCV80-F200-B17-V1D PCV100-F200-B17-V1D-6011					
	RS-485	PCV80-F200-R4-V19 PCV100-F200-R4-V19 PCV100-F200-R4-V19-6011			SSI	PCV-KBL-V19-STR-USB	
	SSI	PCV50-F200-SSI-V19 PCV80-F200-SSI-V19 PCV100-F200-SSI-V19-6011			EtherNet/IP		
	CANopen	PCV80-F200-B16-V15 PCV100-F200-B16-V15-6011			PROFINET		
	EtherNet/IP	PCV50-F200-B25-V1D PCV80-F200-B25-V1D PCV100-F200-B25-V1D-6011					
High-lights	■ Up to 12.5 m/s (41 ft/s) maximum speed ■ 50 mm scan distance +/- 25 mm ■ 80 mm scan distance +/- 15 mm ■ 100 mm scan distance +/- 20 mm ■ 100 mm scan distance +/- 40 mm (6011) ■ 3 PNP switching outputs ■ Pushbutton or software configurable ■ X, Y, speed feedback		■ 10 m, 20 m, 50 m, and 100 m ■ Self-adhesive ■ Suitable for -40°C ... +150 °C ambient conditions ■ Chemically resistant polyester laminate ■ 1, 2, or 4 row tape available ■ Temporary replacement sections can be generated from a standard home/ office printer	■ Used in conjunction with positional code tape ■ Provides a marker number for generating a control signal ■ Available numbers from 001 ... 999	■ PCV-to-PC interface for serial parameter modifications ■ Power supply included ■ Plugs into USB port ■ Allows easy interface with Vision Configurator Software		■ Configuration software for PCV read head ■ Downloadable from Pepperl+Fuchs' website



Overhead cranes rely on PCV for "X" and "Y" positional tracking as well as prevention of skewing.



PCV provides continuous positional feedback of the car body throughout the assembly process.

						
Cordsets and Connectivity					Mounting Hardware	Alignment Guide
Model	V19-G-**M-PUR-ABG ** = Length (meters)	V1SD-G-2M-PUR-ABG-V1SD-G	V19-G-ABG-PG9-FE	WCS-DCS	PCV-AB PCV-FP	PCV-AG80 PCV-AG100
Highlights	- Molded M12 female cordset (8-pin) 2-, 5-, and 20-meter models available from stock - For connection to PCV80 and PCV100 reader heads - Polyurethane jacket - Braided shield	- Molded M12 Ethernet bus cordset - PUR jacket - Shielded 4-pin CAT 5e	8-pin, M12 female connector - Attach your own preferred cable - Contains grounding clamp - Accepts cable diameters from 5 ... 8 mm	6-conductor data cable 26 AWG (5.8 mm O.D.) - Must be ordered in foot increments - PVC jacket - Requires field-attachable connector	- Flat and right-angle brackets for PCV read heads - Stainless steel - M6 mounting screws included	Attach alignment guide to PCV/PGV read head to ensure proper alignment to code tape

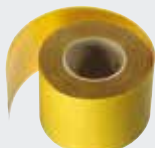


PCV provides precise, contact-free position and speed feedback in elevators and lifts.



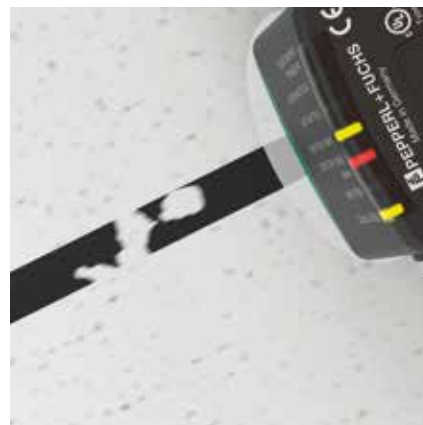
PCV linear feedback ensures material handling system transfer cars allocate their pallets to the correct conveyor.

PGV – Position Guided Vision

							
Read Head			Color Tape	Position Code Tape	Code Control Tape	Data Matrix Tags	Protective Laminate Cover
Model	RS485	PGV100-F200A-R4-V19	PGV33M-CB19-** ** = Tape color	PGV*-CA25** * = Tape length ** = Starting position	PGV-CC25** ** = Control code	PGV85-CT4	PGV25M-CD160-CLEAR
	CANopen	PGV100-F200A-B16-V15					
	PROFIBUS	PGV100-F200A-B6-V15B					
High-lights	■ Non cotact lane tracking of a color strip ■ Noncontact position feedback using Data Matrix tape ■ Excellent extraneous light immunity, >100,000 lux ■ CMOS camera technology ■ No wearing parts ■ X, Y, 360° of angular feedback ■ Up to 8 m/s max speed		■ Available in blue, green, red, yellow ■ 19 mm x 33 mm ■ -5 °C ... 70 °C ■ Environmental resistance: UV radiation, humidity ■ 10 ... 40 mm acceptable widths	■ Lengths up to 100 m ■ -4 °C ... 150 °C operating temp. ■ Polyester laminate 150 µm thick ■ Environmental resistance: UV radiation, humidity, salt spray ■ Adhesive backing for quick installation	■ 1 m length ■ -4 °C ... 150 °C operating temp. ■ Polyester laminate 150 µm thick ■ Environmental resistance: UV radiation, humidity, salt spray ■ Data Matrix control codes initiate starts and stops	■ 85 mm x 85 mm square ■ Adhesive backing for simple installation ■ Provides positional information, angular feedback, and unique number (tag number) ■ High-precision positioning	■ Protective cover for positional tape, control codes, and tags ■ Adhesive backing for simple installation ■ Transparent, added protection without any loss of reliability ■ 160 mm x 25 m ■ 100 mm width also available (PGV25M-CD100-CLEAR)

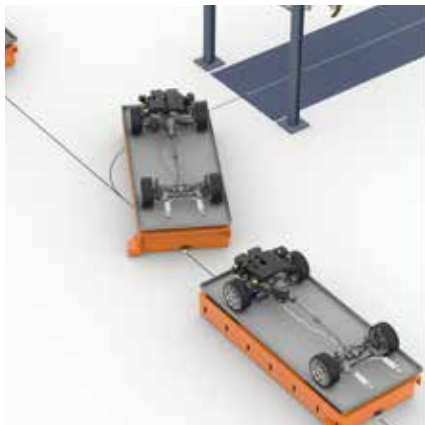


AGV movement is controlled by scanning tapes and painted strips.



Seamless scanning of damaged strips.

						
Serial Interface Adapters		Vision Configurator Software	Cordsets & Connectivity			
Model	PCV-USB-RS485 - Conversion set PCV-KBL-V19-STR-RS485		V19-G-**M-PUR-ABG ** = Length (meters)	V15-G-2M-PUR-CAN-V15-G CANopen	V15B-G-2M-PUR-ABG-V15B-G PROFIBUS	V19-G-ABG-PG9
Highlights	■ PGV-to-PC interface for serial parameter modifications ■ Power supply included ■ Plugs into USB port ■ Use with Vision Configurator Software	■ Configuration software for PGV read head ■ Downloadable from Pepperl+Fuchs' website	■ Molded M12 female cordset (8-pin) ■ 2-, 5-, and 20-meter models available from stock ■ For connection to PCV80 and PCV100 reader heads ■ Polyurethane jacket ■ Braided shield	■ Molded M12 CANopen bus cordset ■ PUR jacket ■ 5-pin, 2 m ■ Immune to vibration, with mechanical latching	■ Molded M12 PROFIBUS bus cable ■ PUR jacket ■ 2-pin, shield attached to coupling nut ■ Data transmission up to 12 MBit/s	■ 8-pin, M12 female connector ■ Attach your own preferred cable ■ Contains grounding clamp ■ Accepts cable diameters from 5 mm ... 8 mm



Turn angle feedback.
Provides smooth navigation.



Data matrix control codes initiate decisions at work stations and "Y" branches.

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