Technical data

General specifications
- Passage speed \( v \leq 8 \text{ m/s} \)
- Measuring range max. 10000 m
- Light type Integrated LED lightning (white/blue)
- Read distance 100 mm
- Depth of focus \( \pm 20 \text{ mm} \)
- Reading field 120 mm x 80 mm
- Ambient light limit 10000 Lux
- Resolution \( \pm 0.2 \text{ mm} \)

Nominal ratings
- Camera
  - Type CMOS, Global shutter
- Processor
  - Clock pulse frequency 600 MHz
  - Speed of computation 4800 MIPS

Functional safety related parameters
- MTTFd 97 a
- Mission Time (TM) 20 a
- Diagnostic Coverage (DC) 0 %

Indicators/operating means
- LED indication 7 LEDs (communication, alignment aid, status information)

Electrical specifications
- Operating voltage \( U_B \) 15 ... 30 V DC, PELV
- No-load supply current \( I_0 \) max. 400 mA
- Power consumption \( P_0 \) 6 W

Interface
- Interface type 100 BASE-TX
- Protocol PROFINET IO Real-Time (RT) Conformance class A
- Transfer rate 100 MBit/s

Interface 2
- Interface type USB Service

Input
- Input type 1 function input
  - 0-level: \(-U_B\) or unwired
  - 1-level: \(+8 \text{ V} \ldots +U_B\), programmable
- Input impedance \( \geq 27 \Omega \)

Output
- Output type 1 to 3 switch outputs, PNP, programmable, short-circuit protected
- Switching voltage Operating voltage
- Switching current 150 mA each output

Standard conformity
- Noise immunity EN 61000-6-2:2005
- Vibration resistance EN 60068-2-6:2008

Ambient conditions
- Operating temperature 0 ... 60 °C (32 ... 140 °F), -20 ... 60 °C (-4 ... 140 °F) (noncondensing; prevent icing on the lens!)
- Storage temperature -20 ... 85 °C (-4 ... 185 °F)
- Relative humidity 90 %, noncondensing

Mechanical specifications
- Connection type 8-pin, M12x1 connector, standard (supply+IO)
  - 4-pin, M12x1 socket, D-coded (LAN)
- Housing width 70 mm
- Housing height 70 mm
- Housing depth 50 mm
- Degree of protection IP67
- Material Housing PC/ABS
- Mass approx. 200 g

Approvals and certificates
- UL approval cULus Listed, General Purpose, Class 2 Power Source, Type 1 enclosure
- CCC approval CCC approval marking not required for products rated \( \leq 36 \text{ V} \)

Model number
PGV100-F200A-B17-V1D
Read head for incident light positioning system

Features
- Mechanically rugged: no wearing parts, long operating life, maintenance-free
- PROFINET interface
- Noncontact lane tracking of colored strip
- Reading of Data Matrix control codes
- Non-contact positioning on Data Matrix code tape

System components
- VAZ-V1S-B Blind plug for M12 sockets
- PGV*-CC25-* Control code tape für PGV System
General
The PGV… reader forms part of the positioning system in the Pepperl+Fuchs incident light process. The reader's features include a camera module and an integrated illumination unit. The reader uses these features to detect a colored strip stuck to the floor to track the lane. The reader also detects control codes and position markers in the form of Data Matrix codes attached to a self-adhesive code tape. The code tape is usually mounted in a fixed position instead of the colored strip or parallel to the colored strip. The reader is located on the front of an automated guided vehicle and guides this vehicle along the colored strip.
Accessories
Marker head for 25 mm code tape
PCV-MB1
Mounting bracket for PCV* read head
PGV33M-CB19-BU
PGV color-tape blue
PGV33M-CB19-GN
PGV color-tape green
PGV33M-CB19-RD
PGV color-tape red
PGV33M-CB19-YE
PGV color-tape yellow
Vision Configurator
Operating software for camera-based sensors
PCV-KBL-V19-STR-USB
USB cable unit with power supply

Mounting and Commissioning
Mount the reader such that the optical surface of the device captures the optimum reading distance to the colored strip (see "Technical Data"). The stability of the mounting and the manner in which the vehicle is guided ensure that the reader is not operated outside of its depth of focus range. The colored strip must not leave the maximum reading window for the reader during this process.
All readers can be adapted to optimally meet specific requirements by means of parameterization.

Indicators and Operating Controls
The PGV... reader is equipped with seven indicator LEDs for carrying out visual function checks and rapid diagnostics. The reader is equipped with two buttons at the back for activating the alignment aid and parameterization mode.

LEDs

<table>
<thead>
<tr>
<th>LED</th>
<th>Color</th>
<th>Label</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>green</td>
<td>BUS LINK</td>
<td>PROFINET communication active</td>
</tr>
<tr>
<td>2</td>
<td>yellow</td>
<td>BUS TX / RX</td>
<td>Data transfer</td>
</tr>
<tr>
<td>3</td>
<td>red</td>
<td>BUS ERR</td>
<td>PROFINET communication error</td>
</tr>
<tr>
<td>4</td>
<td>red / green</td>
<td>PWR / ADJ SYSERR / NO CODE</td>
<td>Code detected / not detected, error</td>
</tr>
<tr>
<td>5</td>
<td>yellow</td>
<td>LANE AVAILABLE</td>
<td>Lane available</td>
</tr>
<tr>
<td>6</td>
<td>yellow</td>
<td>FOLLOW R/L</td>
<td>&quot;Follow lane&quot; activated</td>
</tr>
<tr>
<td>7</td>
<td>red/green/yellow</td>
<td>INTERNAL DIAGNOSTIC</td>
<td>Internal diagnostics</td>
</tr>
</tbody>
</table>

External Parameterization
In order to parameterize the device externally, the parameterization code is required in the form of a Data Matrix containing the desired reader parameters. Data Matrix code cards detailing the step-by-step process for externally parameterizing the device are printed in the operating instructions for the reader.
The reader can be parameterized only within ten minutes of being switched on. If a key is pressed after ten minutes of the device being switched on, a visual signal is given by the LEDs (LED1, green/LED2, yellow/LED3, red/LED4, green/LED5, yellow/LED6, yellow, flashing for two seconds).
• The switchover from normal mode to parameterization mode is made by pressing button 2 on the back of the reader. To switch the device over, button 2 must be pressed and held for more than two seconds. LEDs then flashes.  
  Note: Parameterization mode is exited automatically if the device is inactive for one minute. In this case, the reader reverts to normal mode and operates without the settings having been changed.
• Place the parameterization code in the field of vision of the camera module. After the parameterization code is detected, the green LED4 lights up for one second. In the event of an invalid parameterization code, LED4 lights up red for two seconds.
• Briefly pressing button 2 will end parameterization mode.