Stationary read device

OPC70P-F201-R2-45

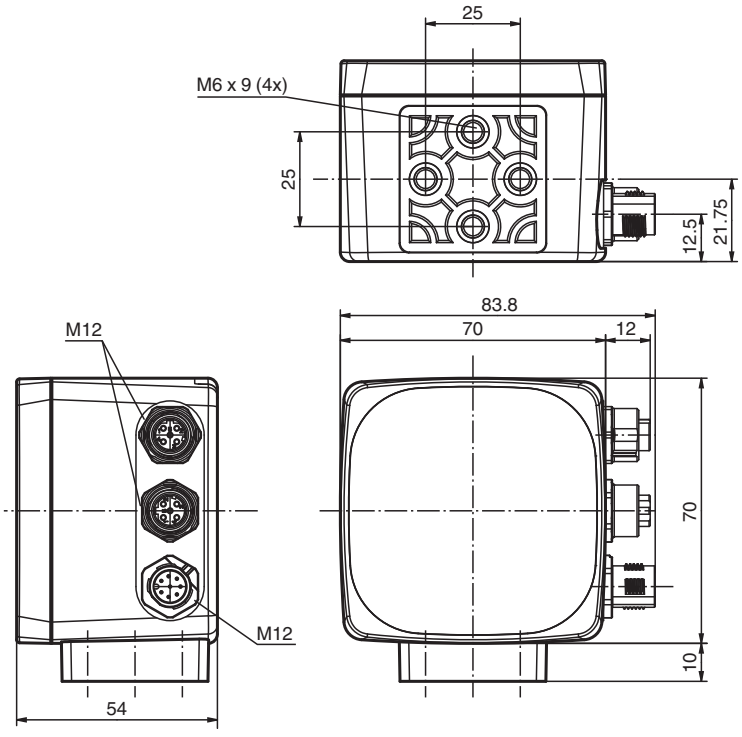
- Reads 1-D and 2-D codes at high speeds of up to 10 m/s at 100 readings/s
- High depth of focus
- Logo comparison
- Rotary encoder input
- Reliable on reflective surfaces through polarization filter technology
- Presence detection

Optical Print Inspector, reads all common 1-D and 2-D codes, detects logos, Ethernet, RS 232, speeds of up to 10 m/s; polarization filter

Function

With the Optical Print Inspector, Pepperl+Fuchs provides the solution to code reading and detection tasks in the field of printing, paper, and packaging.
Whether reading 1-D and 2-D codes at high speeds, reading reliably on reflective surfaces and at varying intervals, with overly long barcodes or performing diverse detection tasks with the Optical Print Inspector, you always have the right Vision Sensor at your disposal.

Dimensions



Technical Data

General specifications	
Light type	Integrated LED lightning (white)
Polarization filter	yes
Symbologies	Data Matrix, Code 39, Code 128, Int 2 of 5, EAN13, Pharmacode

Release date: 2024-02-07 Date of issue: 2024-02-07 Filename: 264852_eng.pdf

Technical Data

Read distance		45 ... 90 mm Nominal distance: 70 mm
Reading field		Minimum read field: 22 mm x 30 mm Read field at nominal distance: 28 mm x 45 mm Maximum read field: 35 mm x 55 mm
Modul size		Minimum module size: 0.15 mm
Evaluation frequency		up to 100 Hz
Target velocity		triggered max. 10 m/s
Data Matrix		
Symbol size		rectangular up to 144 x 144 modules rectangular up to 16 x 48 modules
Data format		ASCII, C40, Text, X12, Edifact, Base 256 , all according to ISO 646
Orientation		omnidirectional
Nominal ratings		
Camera		
Type		CMOS , Global shutter
Number of pixels		752 x 480 pixels
Gray scale		256
Image recording		real-time , Program-controlled or triggered externally
Functional safety related parameters		
$MTTF_d$		40.5 a
Mission Time (T_M)		8 a
Diagnostic Coverage (DC)		0 %
Indicators/operating means		
Operation indicator		LED green: Ready for operation
LED indication		for good/poor reading
Electrical specifications		
Operating voltage	U_B	24 V DC ± 15% , PELV
No-load supply current	I_0	max. 250 mA
Power consumption	P_0	6 W
Interface		
Interface type		serial , RS 232
Transfer rate		max. 115.2 kBit/s
Cable length		max. 30 m
Interface 1		
Interface type		Ethernet
Protocol		TCP/IP
Transfer rate		100 MBit/s
Cable length		max. 30 m
Input		
Input voltage		to be applied externally 24 V ± 15% PELV
Number/Type		Trigger
Input current		approx. 10 mA at 24 V DC
Switching threshold		low: < 10 V, high: > 15 V
Cable length		max. 30 m
Output		
Number/Type		GOOD, BAD, Matchcode
Switching type		PNP
Switching voltage		to be applied externally 24 V ± 15 % PELV
Switching current		100 mA each output
Cable length		max. 30 m
Compliance with standards and directives		
Standard conformity		
Noise immunity		EN 61326-1:2006

Release date: 2024-02-07 Date of issue: 2024-02-07 Filename: 264852_eng.pdf

Technical Data

Emitted interference		EN 61000-6-4:2007/A1:2011
Degree of protection		EN 60529
Photobiological safety		Risk group 1 according to IEC 62471
Approvals and certificates		
CCC approval		CCC approval / marking not required for products rated ≤36 V
Approvals		CE
Ambient conditions		
Ambient temperature		0 ... 45 °C (32 ... 113 °F)
Storage temperature		-20 ... 60 °C (-4 ... 140 °F)
Mechanical specifications		
Degree of protection		IP67
Connection		8-pin, M12x1 connector, standard (supply+IO) , 5-pin, M12x1 socket, standard (RS 232) , 4-pin, M12x1 socket, standard (LAN)
Material		
Housing		PC/ABS
Installation		4 x M6 threading
Mass		approx. 160 g
Dimensions		
Height		70 mm
Width		70 mm
Depth		53 mm

Connection

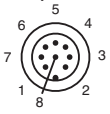
RS 232

Pin	Signal
1	+UB
2	TX RS232
3	GND
4	RX RS232
5	NC

LAN

Pin	Signal
1	TX+ Ethernet
2	RX+ Ethernet
3	TX- Ethernet
4	RX- Ethernet

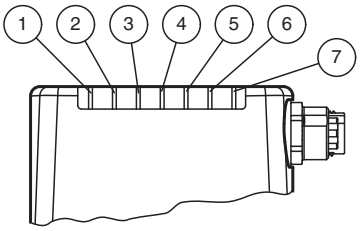
(24 V DC + I/O)



Pin	Signal
1	IN Trigger
2	+UB
3	OUT Good
4	OUT Bad
5	IN 1
6	IN Encoder A
7	GND
8	OUT Matchcode

Release date: 2024-02-07 Date of issue: 2024-02-07 Filename: 264852_eng.pdf

Assembly



1	LED DIAG2	yellow
2	LED DIAG1	yellow
3	LED POWER	green
4	LED READY	yellow
5	LED BAD	yellow
6	LED GOOD	yellow
7	LED TRIGGER	yellow

Release date: 2024-02-07 Date of issue: 2024-02-07 Filename: 264852_eng.pdf

Stationary read device

OPC120P-F201-B17

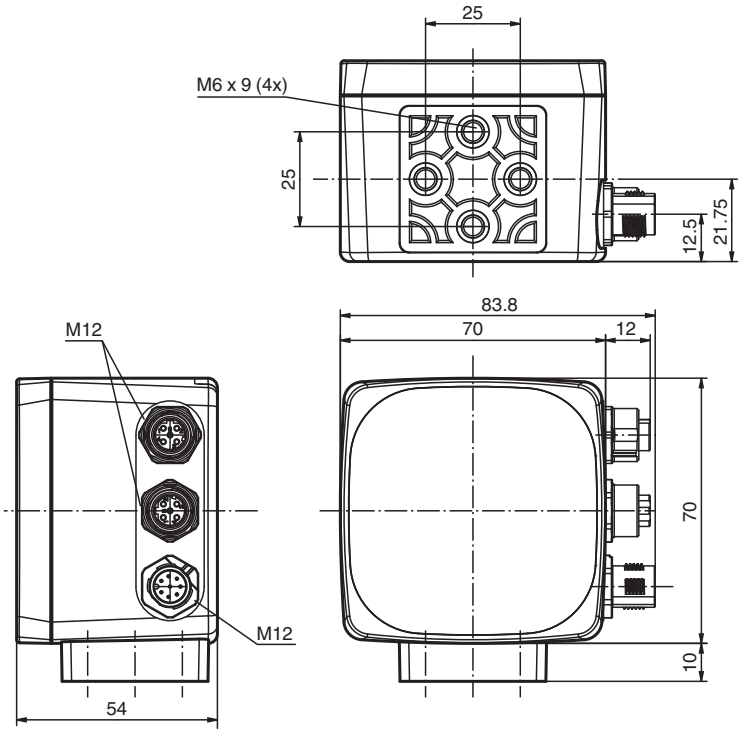
- Reading on highly reflective surfaces with new polarization filter
- PROFINET interface with integrated switch
- Reads Data Matrix codes at high speeds of up to 10 m/s at 50 readings/s

Optical Print Inspector, reading of Data Matrix codes, PROFINET, speeds up to 10 m/sec, polarization filter

Function

With the Optical Print Inspector, Pepperl+Fuchs provides the solution to code reading and detection tasks in the field of printing, paper, and packaging.
Whether reading 1-D and 2-D codes at high speeds, reading reliably on reflective surfaces and at varying intervals, or performing various detection tasks — with the Optical Print Inspector, you always have the right Vision Sensor close at hand.

Dimensions



Technical Data

General specifications	
Light type	Integrated LED lightning (white)
Polarization filter	yes
Symbologies	Data Matrix

Release date: 2024-02-07 Date of issue: 2024-02-07 Filename: 261656_eng.pdf

Technical Data

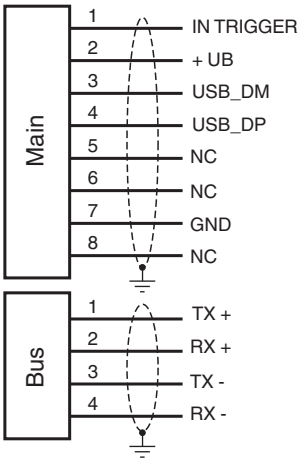
Read distance		70 ... 180 mm Nominal distance: 120 mm
Reading field		Minimum read field: 28 mm x 45 mm Read field at nominal distance: 45 mm x 70 mm Maximum read field: 65 mm x 105 mm
Modul size		Minimum module size: 0.2 mm
Evaluation frequency		up to 50 Hz
Target velocity		triggered max. 10 m/s
Data Matrix		
Symbol size		rectangular up to 144 x 144 modules rectangular up to 16 x 48 modules
Data format		ASCII, C40, Text, X12, Edifact, Base 256 , all according to ISO 646
Orientation		omnidirectional
Nominal ratings		
Camera		
Type		CMOS , Global shutter
Number of pixels		752 x 480 pixels
Gray scale		256
Image recording		real-time , Program-controlled or triggered externally
Functional safety related parameters		
$MTTF_d$		40.5 a
Mission Time (T_M)		8 a
Diagnostic Coverage (DC)		0 %
Indicators/operating means		
LED indication		7 LEDs (communication, alignment aid, status information)
Electrical specifications		
Operating voltage	U_B	24 V DC ± 15% , PELV
No-load supply current	I_0	max. 300 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 voltage		to be applied externally 24 V ± 15% PELV
Number/Type		Trigger
Input current		approx. 10 mA at 24 V DC
Switching threshold		low: < 10 V, high: > 15 V
Cable length		max. 30 m
Output		
Switching type		PNP
Switching voltage		to be applied externally 24 V ± 15 % PELV
Switching current		100 mA each output
Cable length		max. 30 m
Compliance with standards and directives		
Standard conformity		
Noise immunity		EN 61326-1:2006
Emitted interference		EN 61000-6-4:2007/A1:2011
Degree of protection		EN 60529
Photobiological safety		Risk group 1 according to IEC 62471
Approvals and certificates		
CCC approval		CCC approval / marking not required for products rated ≤36 V

Release date: 2024-02-07 Date of issue: 2024-02-07 Filename: 261656_eng.pdf

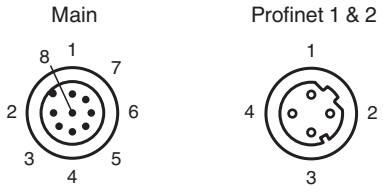
Technical Data

Approvals		CE
Ambient conditions		
Ambient temperature		0 ... 45 °C (32 ... 113 °F)
Storage temperature		-20 ... 85 °C (-4 ... 185 °F)
Relative humidity		90 % , noncondensing
Mechanical specifications		
Degree of protection		IP67
Connection		8-pin, M12x1 connector, standard (supply+IO) , 4-pin, M12x1 socket, D-coded (LAN) , 4-pin, M12x1 socket, D-coded (LAN)
Material		
Housing		PC/ABS
Optical face		Plastic pane
Installation		4 x M6 threading
Mass		approx. 200 g
Dimensions		
Height		70 mm
Width		70 mm
Depth		53 mm

Connection



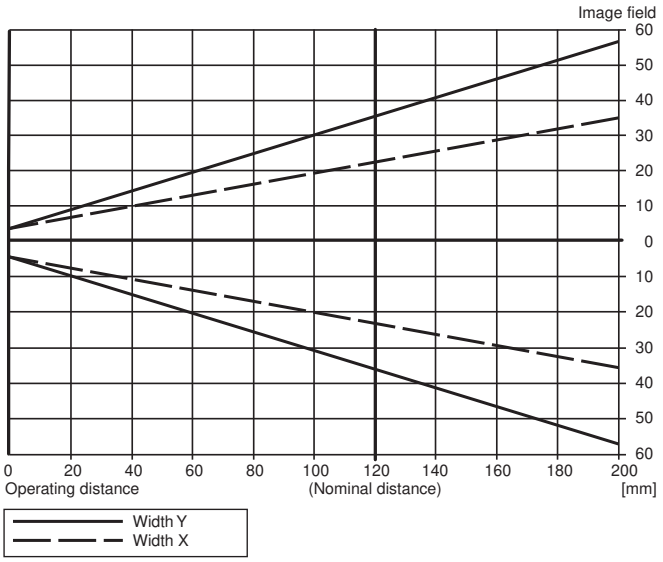
Connection Assignment



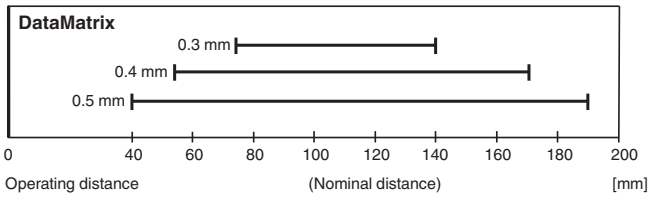
Release date: 2024-02-07 Date of issue: 2024-02-07 Filename: 261656_eng.pdf

Characteristic Curve

Image field dimensions



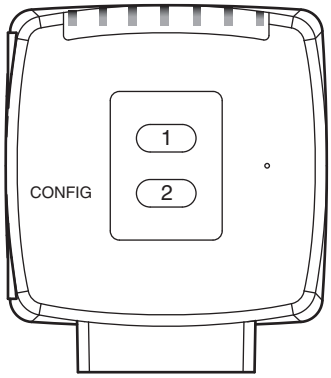
Read ranges

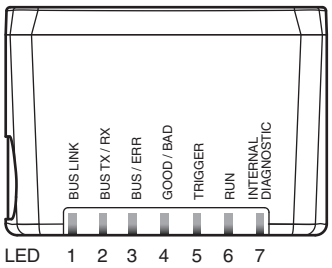


Release date: 2024-02-07 Date of issue: 2024-02-07 Filename: 261656_eng.pdf

Indication

The Optical Print Inspector is equipped with seven indicator LEDs for carrying out visual function checks and rapid diagnostics. In addition, the device is fitted with two buttons on the back of the unit.





LED	Color	Label	Description
1	Green	BUS Link	PROFINET connection activated
2	Yellow	BUS TX / RX	PROFINET data transfer
3	Red	BUS / ERR	PROFINET communication error
4	Green/red	GOOD / BAD	Reading successful/failed
5	Yellow	TRIGGER	Trigger sensor triggered
6	Yellow	RUN	Device ready for operation
7	Red/yellow/green	INTERNAL DIAGNOSTICS	Diagnostic message

Release date: 2024-02-07 Date of issue: 2024-02-07 Filename: 261656_eng.pdf

Stationary read device

OPC120P-F201-R2

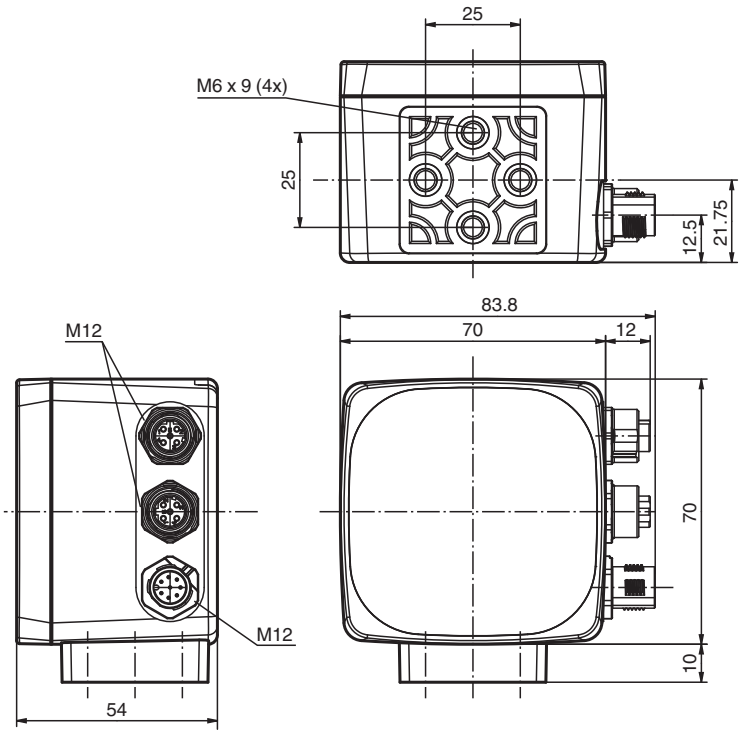
- Reads 1-D and 2-D codes at high speeds of up to 10 m/s at 100 readings/s
- High depth of focus
- Reads barcodes up to 200 mm long
- Code quality index output
- Logo comparison
- Rotary encoder input
- Reliable on reflective surfaces through polarization filter technology
- Presence detection

Optical Print Inspector, reads all common 1-D and 2-D codes, detects logos, Ethernet, RS 232, speeds of up to 10 m/s; polarization filter

Function

With the Optical Print Inspector, Pepperl+Fuchs provides the solution to code reading and detection tasks in the field of printing, paper, and packaging.
Whether reading 1-D and 2-D codes at high speeds, reading reliably on reflective surfaces and at varying intervals, with overly long barcodes or performing diverse detection tasks with the Optical Print Inspector, you always have the right Vision Sensor at your disposal.

Dimensions



Technical Data

General specifications	
Light type	Integrated LED lightning (white)
Polarization filter	yes
Symbologies	Data Matrix, Code 39, Code 128, Int 2 of 5, EAN13, Pharmacode

Release date: 2024-02-07 Date of issue: 2024-02-07 Filename: 256354_eng.pdf

Technical Data

Read distance		70 ... 180 mm Nominal distance: 120 mm
Reading field		Minimum read field: 28 mm x 45 mm Read field at nominal distance: 45 mm x 70 mm Maximum read field: 65 mm x 105 mm
Modul size		Minimum module size: 0.2 mm
Evaluation frequency		up to 100 Hz
Target velocity		triggered max. 10 m/s
Data Matrix		
Symbol size		rectangular up to 144 x 144 modules rectangular up to 16 x 48 modules
Data format		ASCII, C40, Text, X12, Edifact, Base 256 , all according to ISO 646
Orientation		omnidirectional
Nominal ratings		
Camera		
Type		CMOS , Global shutter
Number of pixels		752 x 480 pixels
Gray scale		256
Image recording		real-time , Program-controlled or triggered externally
Functional safety related parameters		
$MTTF_d$		40.5 a
Mission Time (T_M)		8 a
Diagnostic Coverage (DC)		0 %
Indicators/operating means		
Operation indicator		LED green: Ready for operation
LED indication		for good/poor reading
Electrical specifications		
Operating voltage	U_B	24 V DC ± 15% , PELV
No-load supply current	I_0	max. 250 mA
Power consumption	P_0	6 W
Interface		
Interface type		serial , RS 232
Transfer rate		max. 115.2 kBit/s
Cable length		max. 30 m
Interface 1		
Interface type		Ethernet
Protocol		TCP/IP
Transfer rate		100 MBit/s
Cable length		max. 30 m
Input		
Input voltage		to be applied externally 24 V ± 15% PELV
Number/Type		Trigger
Input current		approx. 10 mA at 24 V DC
Switching threshold		low: < 10 V, high: > 15 V
Cable length		max. 30 m
Output		
Number/Type		GOOD, BAD, Matchcode
Switching type		PNP
Switching voltage		to be applied externally 24 V ± 15 % PELV
Switching current		100 mA each output
Cable length		max. 30 m
Compliance with standards and directives		
Standard conformity		
Noise immunity		EN 61326-1:2006

Release date: 2024-02-07 Date of issue: 2024-02-07 Filename: 256354_eng.pdf

Technical Data

Emitted interference		EN 61000-6-4:2007/A1:2011
Degree of protection		EN 60529
Photobiological safety		Risk group 1 according to IEC 62471
Approvals and certificates		
CCC approval		CCC approval / marking not required for products rated ≤36 V
Approvals		CE
Ambient conditions		
Ambient temperature		0 ... 45 °C (32 ... 113 °F)
Storage temperature		-20 ... 60 °C (-4 ... 140 °F)
Mechanical specifications		
Degree of protection		IP67
Connection		8-pin, M12x1 connector, standard (supply+IO) , 5-pin, M12x1 socket, standard (RS 232) , 4-pin, M12x1 socket, standard (LAN)
Material		
Housing		PC/ABS
Installation		4 x M6 threading
Mass		approx. 160 g
Dimensions		
Height		70 mm
Width		70 mm
Depth		53 mm

Connection

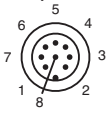
RS 232

Pin	Signal
1	+UB
2	TX RS232
3	GND
4	RX RS232
5	NC

LAN

Pin	Signal
1	TX+ Ethernet
2	RX+ Ethernet
3	TX- Ethernet
4	RX- Ethernet

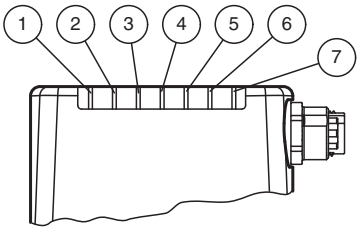
(24 V DC + I/O)



Pin	Signal
1	IN Trigger
2	+UB
3	OUT Good
4	OUT Bad
5	IN 1
6	IN Encoder A
7	GND
8	OUT Matchcode

Release date: 2024-02-07 Date of issue: 2024-02-07 Filename: 256354_eng.pdf

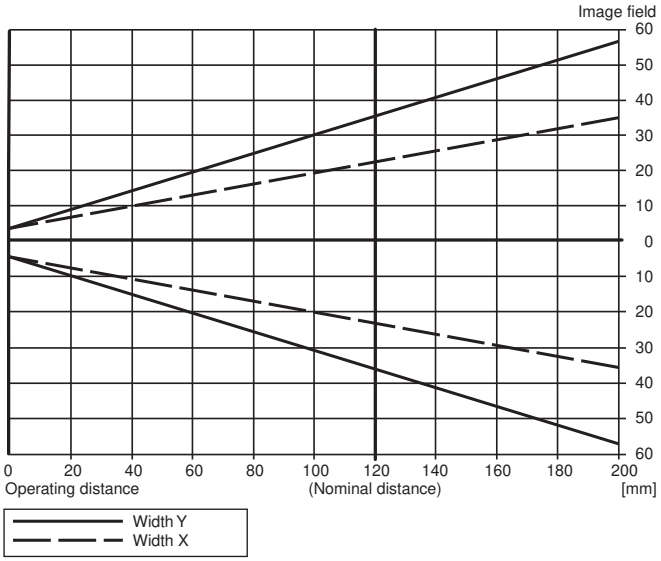
Assembly



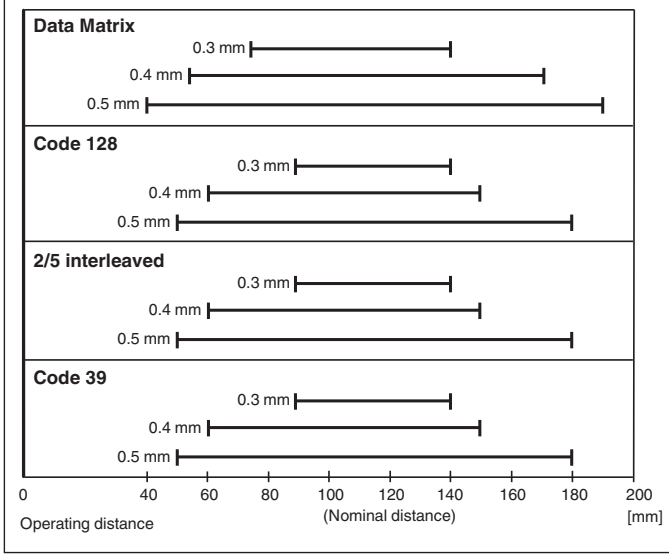
1	LED DIAG2	yellow
2	LED DIAG1	yellow
3	LED POWER	green
4	LED READY	yellow
5	LED BAD	yellow
6	LED GOOD	yellow
7	LED TRIGGER	yellow

Characteristic Curve

Image field dimensions



Read ranges



Release date: 2024-02-07 Date of issue: 2024-02-07 Filename: 256354_eng.pdf

Stationary read device

OPC120W-F200-R2

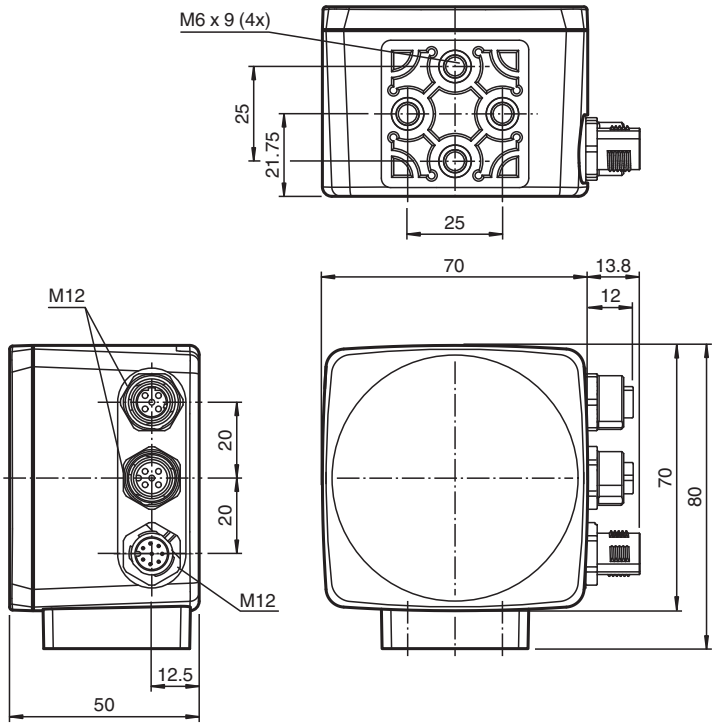
- Reads 1-D and 2-D codes at high speeds of up to 6 m/s at 30 readings/s
- High depth of focus
- Code quality index output
- Logo comparison
- Presence detection

Optical Print Inspector, reads all common 1-D and 2-D codes, detects logos, Ethernet, RS 232, speeds of up to 6 m/s

Function

With the Optical Print Inspector, Pepperl+Fuchs provides the solution to code reading and detection tasks in the field of printing, paper, and packaging.
Whether reading 1D and 2D codes at high speeds, at varying intervals, with reflective surfaces, with overly long barcodes or performing diverse detection tasks — with the Optical Print Inspector, you always have the right Vision Sensor at your disposal.

Dimensions



Technical Data

General specifications	
Light type	Integrated LED lightning (white)
Symbologies	Data Matrix, Code 39, Code 128, Int 2 of 5, EAN13, Pharmacode
Read distance	70 ... 180 mm Nominal distance: 120 mm

Release date: 2024-08-05 Date of issue: 2024-08-05 Filename: 240399_eng.pdf

Technical Data

Reading field		Minimum read field: 28 mm x 45 mm Read field at nominal distance: 45 mm x 70 mm Maximum read field: 65 mm x 105 mm
Modul size		Minimum module size: 0.2 mm
Evaluation frequency		up to 30 Hz
Target velocity		triggered max. 6 m/s
Data Matrix		
Symbol size		rectangular up to 144 x 144 modules rectangular up to 16 x 48 modules
Data format		ASCII, C40, Text, X12, Edifact, Base 256 , all according to ISO 646
Orientation		omnidirectional
Nominal ratings		
Camera		
Type		CMOS , Global shutter
Number of pixels		752 x 480 pixels
Gray scale		256
Image recording		real-time , Program-controlled or triggered externally
Functional safety related parameters		
$MTTF_d$		40.5 a
Mission Time (T_M)		8 a
Diagnostic Coverage (DC)		0 %
Indicators/operating means		
Operation indicator		LED green: Ready for operation
LED indication		for good/poor reading
Electrical specifications		
Operating voltage	U_B	24 V DC ± 15% , PELV
No-load supply current	I_0	max. 250 mA
Power consumption	P_0	6 W
Interface		
Interface type		serial , RS 232
Transfer rate		max. 115.2 kBit/s
Cable length		max. 30 m
Interface 1		
Interface type		Ethernet
Protocol		TCP/IP
Transfer rate		100 MBit/s
Cable length		max. 30 m
Input		
Input voltage		to be applied externally 24 V ± 15% PELV
Number/Type		Trigger
Input current		approx. 10 mA at 24 V DC
Switching threshold		low: < 10 V, high: > 15 V
Cable length		max. 30 m
Output		
Number/Type		GOOD, BAD, Matchcode
Switching type		PNP
Switching voltage		to be applied externally 24 V ± 15 % PELV
Switching current		100 mA each output
Cable length		max. 30 m
Compliance with standards and directives		
Standard conformity		
Noise immunity		EN 61326-1
Emitted interference		EN 61000-6-4
Degree of protection		EN 60529

Release date: 2024-08-05 Date of issue: 2024-08-05 Filename: 240399_eng.pdf

Technical Data

Photobiological safety		EN 62471:2008 exempt group
Approvals and certificates		
CCC approval		CCC approval / marking not required for products rated ≤36 V
Approvals		CE
Ambient conditions		
Ambient temperature		0 ... 45 °C (32 ... 113 °F)
Storage temperature		-20 ... 60 °C (-4 ... 140 °F)
Mechanical specifications		
Degree of protection		IP67
Connection		8-pin, M12x1 connector, standard (supply+IO) , 5-pin, M12x1 socket, standard (RS 232) , 4-pin, M12x1 socket, standard (LAN)
Material		
Housing		PC/ABS
Installation		4 x M6 threading
Mass		approx. 160 g
Dimensions		
Height		70 mm
Width		70 mm
Depth		50 mm

Connection

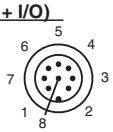
RS 232

Pin	Signal
1	+UB
2	TX RS232
3	GND
4	RX RS232
5	NC

LAN

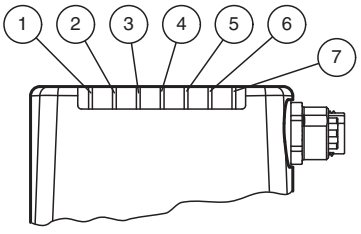
Pin	Signal
1	TX+ Ethernet
2	RX+ Ethernet
3	TX- Ethernet
4	RX- Ethernet

(24 V DC + I/O)



Pin	Signal
1	IN Trigger
2	+UB
3	OUT Good
4	OUT Bad
5	IN 1
6	IN Encoder A
7	GND
8	OUT Matchcode

Assembly



1	LED DIAG2	yellow
2	LED DIAG1	yellow
3	LED POWER	green
4	LED READY	yellow
5	LED BAD	yellow
6	LED GOOD	yellow
7	LED TRIGGER	yellow

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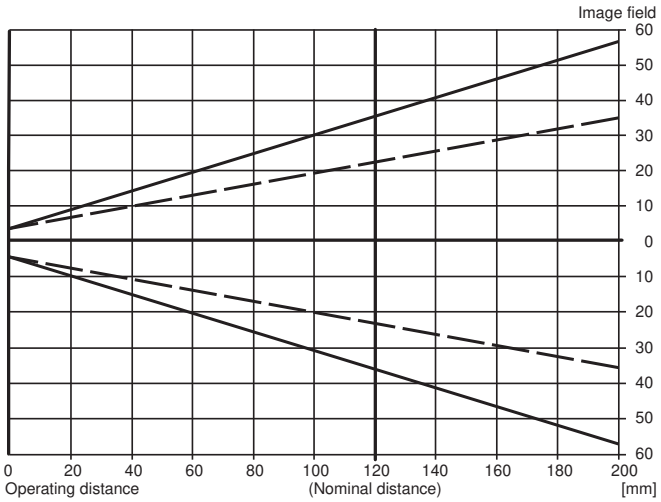
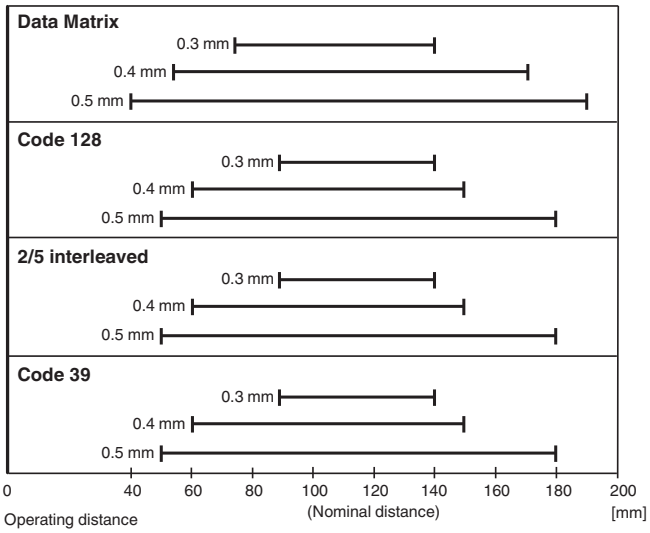
Characteristic Curve

Image field dimensions



Read ranges



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