

Универсальные двухмерные датчики технического зрения 2-D Vision

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Россия +7(495)268-04-70

Казахстан +7(727) 345-47-04

Беларусь +(375) 257-127-884

Узбекистан +998(71)205-18-59

Киргизия +996(312)96-26-47

эл.почта: phb@nt-rt.ru || сайт: <https://pepperl-fuchs.nt-rt.ru/>



Vision Sensor

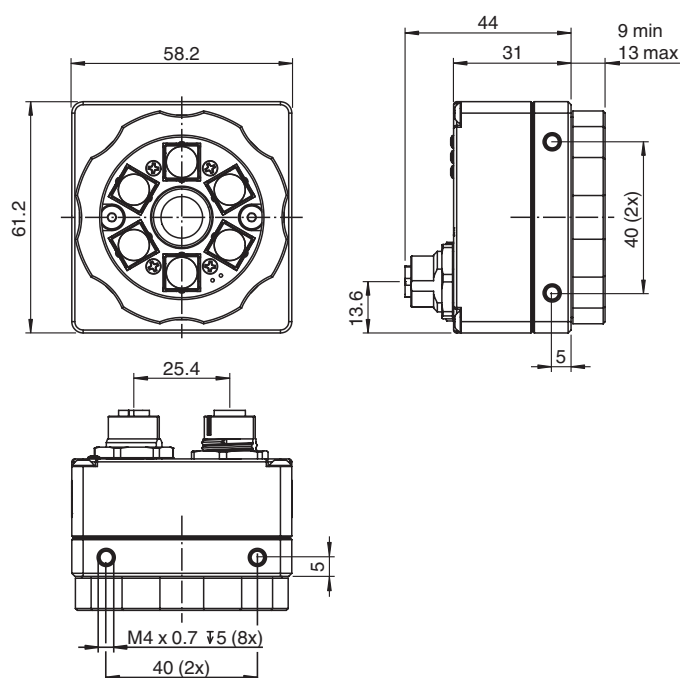
VOS2000-F226W-8MM-I

- Reads all standard 1-D and 2-D codes
- Reads DPM codes
- Multi code reading
- Output string formatting
- Code quality output
- 32 Jobs on-board can be saved
- Offline parameterization
- 1.2 megapixel resolution
- Integrated illumination
- Mechanical focus adjustment

Vision sensor for 1-D and 2-D code reading; Resolution: 1280 x 960 pixels; Light source: integrated LED flash, white; Lens: M12 lens; Focal length: 8 mm



Dimensions



Technical Data

General specifications

Sensing range	55 mm x 41 mm at 100 mm reading distance and min. module size of 0.1 mm (1-D and 2-D barcode) 355 mm x 266 mm at 600 mm reading distance and min. module size of 0.48 mm (1-D barcode) or 0.64 mm (2-D barcode)
Light source	Integrated LED lightning , white
Picture detail	dependant of operating distance

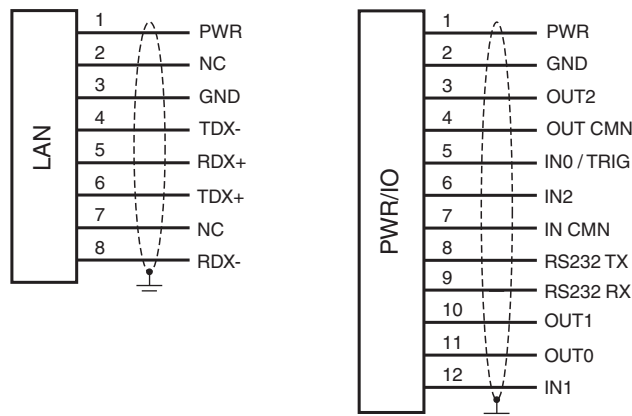
Technical Data

Readable codes		1-D Codes: Code 128, Code 39, Int 2 of 5, Codabar, UPC-A/E, EAN-8/13, Code 11, Code 32, Plessey, MSI Plessey, Telepen, BC 412, Pharmacode, DataBar, Postcode, Trioptic 2-D Codes: Data Matrix, QR-Code, Micro QR-Code, PDF417, Micro PDF417, Aztec, Han Xin Code, Maxi Code, Grid Matrix, Dotcode
Trigger mode		Free-running or triggered externally
Depth of focus		± 5 % of the operating distance
Focal length		8 mm
Evaluation frequency		30 Hz
Target velocity		max. 4 m/s
Resolution		1280 x 960 pixels
Image sensor		1/3" CMOS monochrom Global Shutter 3.75 µm pixel size
Lens		M12 integrated lens
Parameterization/software		
Parameter assignment		Parameterization via PC user interface VCT Tool
Evaluation procedure		
Identification and Verification		1-D and 2-D codes
Indicators/operating means		
LED 1		Steady blue: sensor started, not set up Steady green: job loaded, ready for execution Flashing green: job loaded and being executed, capture in progress Steady red: sensor fault
LED 2		Flashing blue: starting (duration approx. 20 seconds) Steady green: measurement successful (Pass) Steady blue: measurement borderline (Recycle) Steady red: measurement unsuccessful (Fail)
LED 3		Steady blue: warm reset or restart Steady red/green/yellow: network activity
Focus setting		Focus adjustable via centering
Electrical specifications		
Operating voltage	U_B	12 ... 30 V DC
No-load supply current	I_0	300 mA
Interface 1		
Interface type		Ethernet
Protocol		PROFINET IO TCP/IP EtherNet/IP
Transfer rate		100 MBit/s
Interface 2		
Interface type		RS-232 , serial
Transfer rate		115.2 kBit/s
Input		
Input type		optically decoupled Inputs
Input voltage		Logic low (OFF): 0 ... 3 V Logic high (ON): 11 ... 30 V Switching threshold: 12 V
Control input		Image capture trigger + 2 general purpose inputs 2 inputs can be used for job switching
Input current		8 mA (typical)
Internal protection circuit		3 kΩ / 4000 V (rms)
Switching delay		Switch-on time (ON): 20 µs Switch-off time (OFF): 10 µs Image capture trigger: 62 µs (until image capture is triggered)
Output		
Output type		3 general purpose outputs , freely programmable , optically decoupled
Switching voltage		max. 30 V
Switching current		max. 100 mA each output

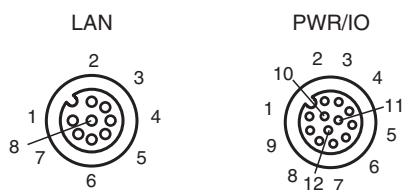
Technical Data

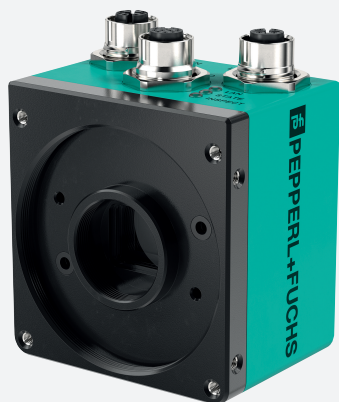
Switching delay		Switch-on time (ON): 150 μs Switch-off time (OFF): 50 μs
Standard conformity		
Emitted interference		EN 61000-6-4:2007+A1:2011
Noise immunity		EN 61000-6-2:2005
Approvals and certificates		
Approvals		CE
Ambient conditions		
Ambient temperature		0 ... 50 °C (32 ... 122 °F)
Storage temperature		-20 ... 60 °C (-4 ... 140 °F)
Mechanical specifications		
Degree of protection		IP67
Connection		8-pin M12 socket A-coded ; 12-pin M12 socket
Material		
Housing		anodized aluminum , plastic
Optical face		Plastic pane
Installation		Mounting bracket
Mass		approx. 200 g
Dimensions		
Height		57 mm
Width		58 mm
Length		61 mm

Connection Assignment



Connection





Vision Sensor

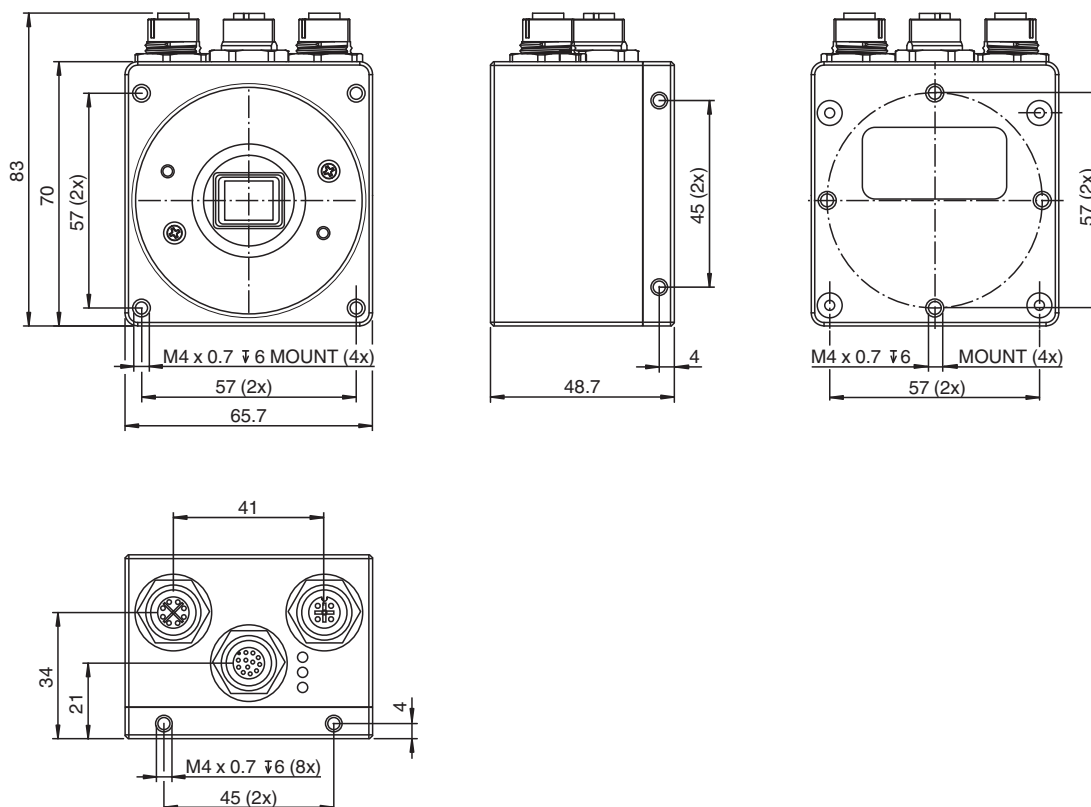
VOS5000-F227-C-S

- Wide range of detection tools for flexible inspection tasks
- Combinable vision tools for feature detection, completeness checking, code reading, text recognition and object position checking
- 32 Jobs on-board can be saved
- Exchangeable lens (C-Mount)
- Easy integration with flexible programmable data output

Vision sensor for advanced object detection; Resolution: 2560 x 2048 pixels; Light source: external illumination; Lens: C-mount connection



Dimensions



Technical Data

General specifications

Light source
Picture detail

External lighting
dependant of operating distance (see manual)

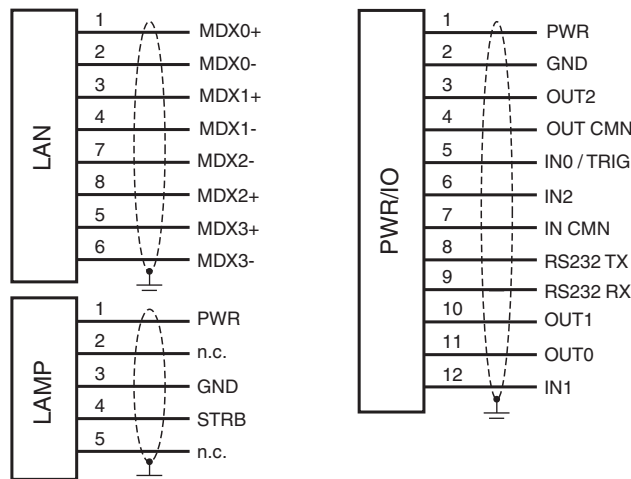
Technical Data

Trigger mode		Free-running or triggered externally
Depth of focus		± 5 % of the operating distance
Resolution		2560 x 2048 pixels
Image sensor		1" CMOS monochrom Global Shutter 5 µm pixel size
Parameterization/software		
Parameter assignment		Parameterization via PC user interface VCT Tool
Evaluation procedure		
Positioning and Guidance		Based on Parts or product marks, up to four Locators to detect X,Y shift and rotation
Identification and Verification		OCR, 1-D and 2-D codes
Detection & Pattern Matching		Pixel-, contour- or edge count
Measuring		Distance, angle, circle size (after calibration)
Indicators/operating means		
LED 1		Steady blue: sensor started, not set up Steady green: job loaded, ready for execution Flashing green: job loaded and being executed, capture in progress Steady red: sensor fault
LED 2		Flashing blue: starting (duration approx. 20 seconds) Steady green: measurement successful (Pass) Steady blue: measurement borderline (Recycle) Steady red: measurement unsuccessful (Fail)
LED 3		Steady blue: warm reset or restart Steady red/green/yellow: network activity
Electrical specifications		
Operating voltage	U _B	21 ... 30 V DC
No-load supply current	I ₀	300 mA
Interface 1		
Interface type		Ethernet
Protocol		PROFINET IO TCP/IP EtherNet/IP
Transfer rate		1 GBit/s
Interface 2		
Interface type		RS-232 , serial
Transfer rate		115.2 kBit/s
Input		
Input type		optically decoupled Inputs
Input voltage		Logic low (OFF): 0 ... 3 V Logic high (ON): 11 ... 30 V Switching threshold: 12 V
Control input		Image capture trigger + 2 general purpose inputs 2 inputs can be used for job switching
Input current		8 mA (typical)
Internal protection circuit		3 kΩ / 4000 V (rms)
Switching delay		Switch-on time (ON): 20 µs Switch-off time (OFF): 10 µs Image capture trigger: 62 µs (until image capture is triggered)
Output		
Output type		3 general purpose outputs , freely programmable , optically decoupled
Switching voltage		max. 30 V
Switching current		max. 200 mA each output
Switching delay		Switch-on time (ON): 400 µs Switch-off time (OFF): 80 µs
Standard conformity		
Emitted interference		EN 61000-6-4:2007+A1:2011
Noise immunity		EN 61000-6-2:2005
Approvals and certificates		
Approvals		CE

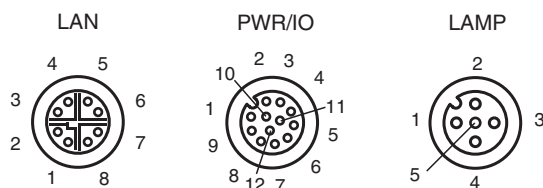
Technical Data

Ambient conditions		
Ambient temperature		0 ... 50 °C (32 ... 122 °F)
Storage temperature		-20 ... 60 °C (-4 ... 140 °F)
Mechanical specifications		
Degree of protection		IP67 (with mounted lens protection cover)
Connection		5-pin M12 socket ; 8-pin M12 socket X-coded ; 12-pin M12 socket
Material		
Housing		anodized aluminum
Installation		Mounting bracket
Mass		450 g
Objective connection		C-mount connection for external lens with different focal lengths
Dimensions		
Height		48 mm
Width		66 mm
Length		83 mm

Connection Assignment



Connection





Vision Sensor

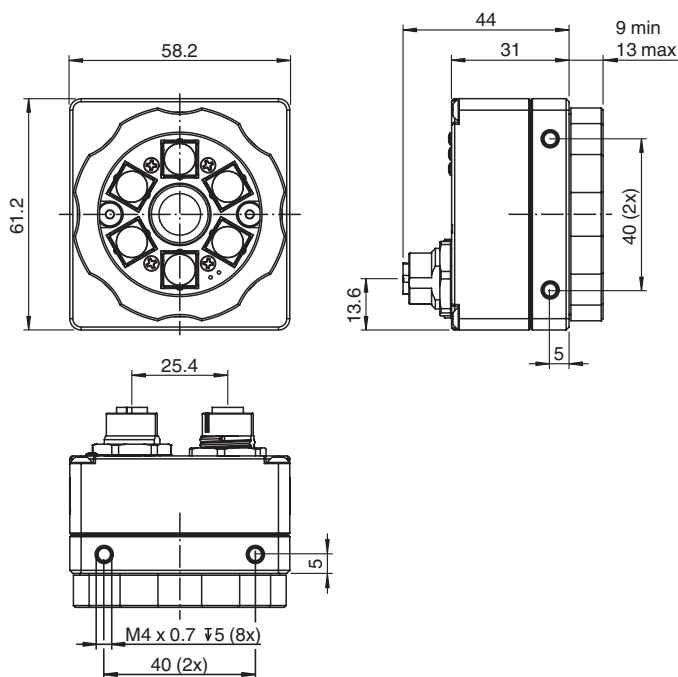
VOS2000-F226R-8MM-S

- Wide range of detection tools for flexible inspection tasks
- Combinable vision tools for feature detection, completeness checking, code reading, text recognition and object position checking
- 32 Jobs on-board can be saved
- Integrated illumination
- Mechanical focus adjustment
- Easy integration with flexible programmable data output

Vision sensor for advanced object detection; Resolution: 1280 x 960 pixels; Light source: integrated LED flash, red; Lens: M12 lens; Focal length: 8 mm



Dimensions



Technical Data

General specifications

Light source	Integrated LED lightning , red
Picture detail	dependant of operating distance (see manual)
Trigger mode	Free-running or triggered externally
Depth of focus	± 5 % of the operating distance
Focal length	8 mm
Resolution	1280 x 960 pixels
Image sensor	1/3" CMOS monochrom Global Shutter 3.75 µm pixel size

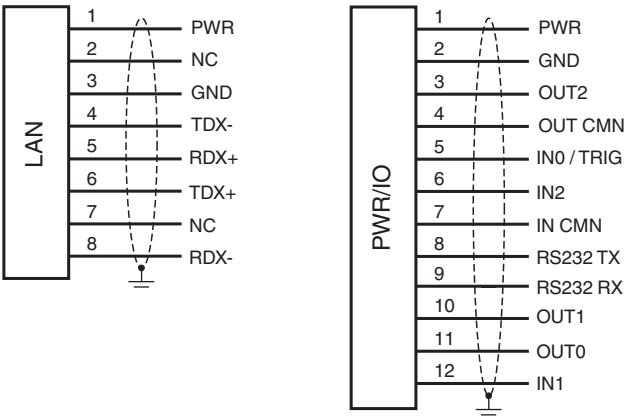
Technical Data

Lens		M12 integrated lens
Parameterization/software		
Parameter assignment		Parameterization via PC user interface VCT Tool
Evaluation procedure		
Positioning and Guidance		Based on Parts or product marks, up to four Locators to detect X,Y shift and rotation
Identification and Verification		OCR, 1-D and 2-D codes
Detection & Pattern Matching		Pixel-, contour- or edge count
Measuring		Distance, angle, circle size (after calibration)
Indicators/operating means		
LED 1		Steady blue: sensor started, not set up Steady green: job loaded, ready for execution Flashing green: job loaded and being executed, capture in progress Steady red: sensor fault
LED 2		Flashing blue: starting (duration approx. 20 seconds) Steady green: measurement successful (Pass) Steady blue: measurement borderline (Recycle) Steady red: measurement unsuccessful (Fail)
LED 3		Steady blue: warm reset or restart Steady red/green/yellow: network activity
Focus setting		Focus adjustable via centering
Electrical specifications		
Operating voltage	U_B	12 ... 30 V DC
No-load supply current	I_0	300 mA
Interface 1		
Interface type		Ethernet
Protocol		PROFINET IO TCP/IP EtherNet/IP
Transfer rate		100 MBit/s
Interface 2		
Interface type		RS-232 , serial
Transfer rate		115.2 kBit/s
Input		
Input type		optically decoupled Inputs
Input voltage		Logic low (OFF): 0 ... 3 V Logic high (ON): 11 ... 30 V Switching threshold: 12 V
Control input		Image capture trigger + 2 general purpose inputs 2 inputs can be used for job switching
Input current		8 mA (typical)
Internal protection circuit		3 k Ω / 4000 V (rms)
Switching delay		Switch-on time (ON): 20 μ s Switch-off time (OFF): 10 μ s Image capture trigger: 62 μ s (until image capture is triggered)
Output		
Output type		3 general purpose outputs , freely programmable , optically decoupled
Switching voltage		max. 30 V
Switching current		max. 100 mA each output
Switching delay		Switch-on time (ON): 150 μ s Switch-off time (OFF): 50 μ s
Standard conformity		
Emitted interference		EN 61000-6-4:2007+A1:2011
Noise immunity		EN 61000-6-2:2005
Approvals and certificates		
Approvals		CE
Ambient conditions		
Ambient temperature		0 ... 50 °C (32 ... 122 °F)
Storage temperature		-20 ... 60 °C (-4 ... 140 °F)
Mechanical specifications		

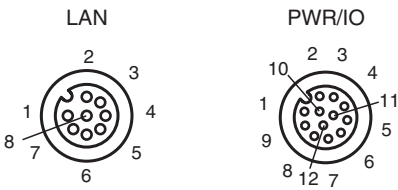
Technical Data

Degree of protection	IP67
Connection	8-pin M12 socket A-coded ; 12-pin M12 socket
Material	
Housing	anodized aluminum
Optical face	Plastic pane
Installation	Mounting bracket
Mass	approx. 200 g
Dimensions	
Height	57 mm
Width	58 mm
Length	61 mm

Connection Assignment



Connection





Vision Sensor

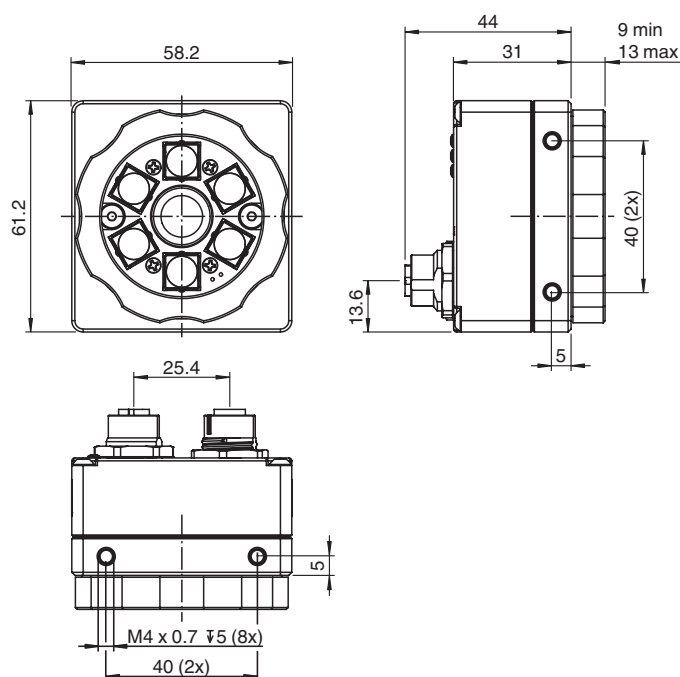
VOS1000-F226R-8MM-S

- Wide range of detection tools for flexible inspection tasks
- Combinable vision tools for feature detection, completeness checking, code reading, text recognition and object position checking
- 32 Jobs on-board can be saved
- Integrated illumination
- Mechanical focus adjustment
- Easy integration with flexible programmable data output

Vision sensor for advanced object detection; Resolution: 640 x 480 pixels; Light source: integrated LED flash, red; Lens: M12 lens; Focal length: 8 mm



Dimensions



Technical Data

General specifications

Light source	Integrated LED lightning , red
Picture detail	dependant of operating distance (see manual)
Trigger mode	Free-running or triggered externally
Depth of focus	± 5 % of the operating distance
Focal length	8 mm
Resolution	640 x 480 pixels
Image sensor	1/3" CMOS monochrom Global Shutter 3.75 µm pixel size

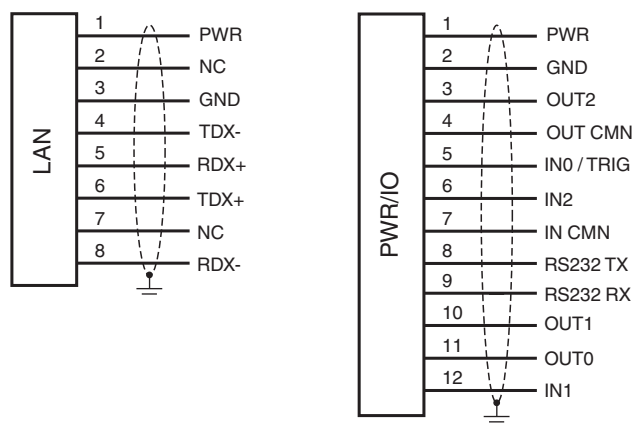
Technical Data

Lens		M12 integrated lens
Parameterization/software		
Parameter assignment		Parameterization via PC user interface VCT Tool
Evaluation procedure		
Positioning and Guidance		Based on Parts or product marks, up to four Locators to detect X,Y shift and rotation
Identification and Verification		OCR, 1-D and 2-D codes
Detection & Pattern Matching		Pixel-, contour- or edge count
Measuring		Distance, angle, circle size (after calibration)
Indicators/operating means		
LED 1		Steady blue: sensor started, not set up Steady green: job loaded, ready for execution Flashing green: job loaded and being executed, capture in progress Steady red: sensor fault
LED 2		Flashing blue: starting (duration approx. 20 seconds) Steady green: measurement successful (Pass) Steady blue: measurement borderline (Recycle) Steady red: measurement unsuccessful (Fail)
LED 3		Steady blue: warm reset or restart Steady red/green/yellow: network activity
Focus setting		Focus adjustable via centering
Electrical specifications		
Operating voltage	U_B	12 ... 30 V DC
No-load supply current	I_0	300 mA
Interface 1		
Interface type		Ethernet
Protocol		PROFINET IO TCP/IP EtherNet/IP
Transfer rate		100 MBit/s
Interface 2		
Interface type		RS-232 , serial
Transfer rate		115.2 kBit/s
Input		
Input type		optically decoupled Inputs
Input voltage		Logic low (OFF): 0 ... 3 V Logic high (ON): 11 ... 30 V Switching threshold: 12 V
Control input		Image capture trigger + 2 general purpose inputs 2 inputs can be used for job switching
Input current		8 mA (typical)
Internal protection circuit		3 k Ω / 4000 V (rms)
Switching delay		Switch-on time (ON): 20 μ s Switch-off time (OFF): 10 μ s Image capture trigger: 62 μ s (until image capture is triggered)
Output		
Output type		3 general purpose outputs , freely programmable , optically decoupled
Switching voltage		max. 30 V
Switching current		max. 100 mA each output
Switching delay		Switch-on time (ON): 150 μ s Switch-off time (OFF): 50 μ s
Standard conformity		
Emitted interference		EN 61000-6-4:2007+A1:2011
Noise immunity		EN 61000-6-2:2005
Approvals and certificates		
Approvals		CE
Ambient conditions		
Ambient temperature		0 ... 50 °C (32 ... 122 °F)
Storage temperature		-20 ... 60 °C (-4 ... 140 °F)
Mechanical specifications		

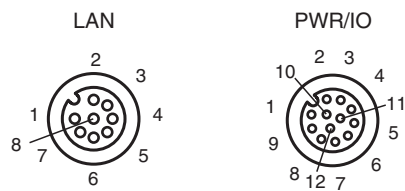
Technical Data

Degree of protection	IP67
Connection	8-pin M12 socket A-coded ; 12-pin M12 socket
Material	
Housing	anodized aluminum
Optical face	Plastic pane
Installation	Mounting bracket
Mass	approx. 200 g
Dimensions	
Height	57 mm
Width	58 mm
Length	61 mm

Connection Assignment



Connection





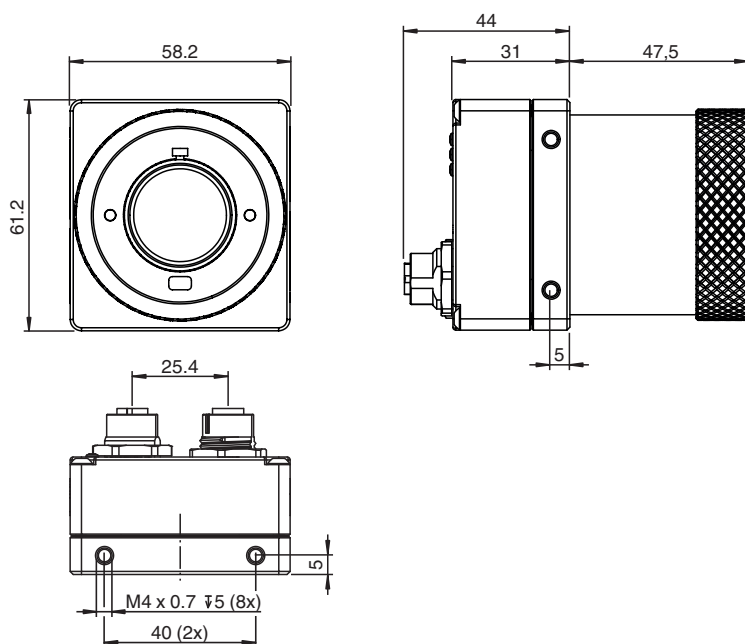
Vision Sensor VOS2000-F226-C-S

- Wide range of detection tools for flexible inspection tasks
- Combinable vision tools for feature detection, completeness checking, code reading, text recognition and object position checking
- 32 Jobs on-board can be saved
- Exchangeable lens (C-Mount)
- Easy integration with flexible programmable data output

Vision sensor for advanced object detection; Resolution: 1280 x 960 pixels; Light source: external illumination; Lens: C-mount connection



Dimensions



Protective cover and lens not included in the scope of delivery.

Technical Data

General specifications

Light source	External lighting
Picture detail	dependant of operating distance (see manual)
Trigger mode	Free-running or triggered externally
Depth of focus	$\pm 5\%$ of the operating distance
Resolution	1280 x 960 pixels
Image sensor	1/3" CMOS monochrome Global Shutter 3.75 μ m pixel size

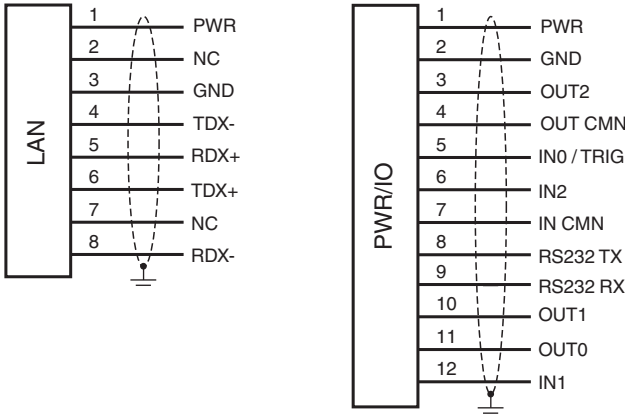
Technical Data

Parameterization/software		
Parameter assignment		Parameterization via PC user interface VCT Tool
Evaluation procedure		
Positioning and Guidance		Based on Parts or product marks, up to four Locators to detect X,Y shift and rotation
Identification and Verification		OCR, 1-D and 2-D codes
Detection & Pattern Matching		Pixel-, contour- or edge count
Measuring		Distance, angle, circle size (after calibration)
Indicators/operating means		
LED 1		Steady blue: sensor started, not set up Steady green: job loaded, ready for execution Flashing green: job loaded and being executed, capture in progress Steady red: sensor fault
LED 2		Flashing blue: starting (duration approx. 20 seconds) Steady green: measurement successful (Pass) Steady blue: measurement borderline (Recycle) Steady red: measurement unsuccessful (Fail)
LED 3		Steady blue: warm reset or restart Steady red/green/yellow: network activity
Electrical specifications		
Operating voltage	U_B	12 ... 30 V DC
No-load supply current	I_0	300 mA
Interface 1		
Interface type		Ethernet
Protocol		PROFINET IO TCP/IP EtherNet/IP
Transfer rate		100 MBit/s
Interface 2		
Interface type		RS-232 , serial
Transfer rate		115.2 kBit/s
Input		
Input type		optically decoupled Inputs
Input voltage		Logic low (OFF): 0 ... 3 V Logic high (ON): 11 ... 30 V Switching threshold: 12 V
Control input		Image capture trigger + 2 general purpose inputs 2 inputs can be used for job switching
Input current		8 mA (typical)
Internal protection circuit		3 k Ω / 4000 V (rms)
Switching delay		Switch-on time (ON): 20 μ s Switch-off time (OFF): 10 μ s Image capture trigger: 62 μ s (until image capture is triggered)
Output		
Output type		3 general purpose outputs , freely programmable , optically decoupled
Switching voltage		max. 30 V
Switching current		max. 100 mA each output
Switching delay		Switch-on time (ON): 150 μ s Switch-off time (OFF): 50 μ s
Standard conformity		
Emitted interference		EN 61000-6-4:2007+A1:2011
Noise immunity		EN 61000-6-2:2005
Approvals and certificates		
Approvals		CE
Ambient conditions		
Ambient temperature		0 ... 50 °C (32 ... 122 °F)
Storage temperature		-20 ... 60 °C (-4 ... 140 °F)
Mechanical specifications		
Degree of protection		IP67 (with mounted lens protection cover)
Connection		8-pin M12 socket A-coded ; 12-pin M12 socket

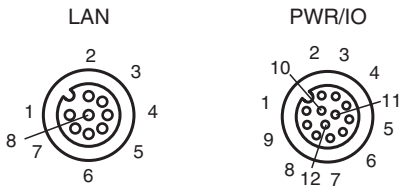
Technical Data

Material		
Housing		anodized aluminum
Installation		Mounting bracket
Mass		approx. 200 g
Objective connection		C-mount connection for external lens with different focal lengths
Dimensions		
Height		57 mm
Width		58 mm
Length		61 mm

Connection Assignment



Connection





Vision Sensor

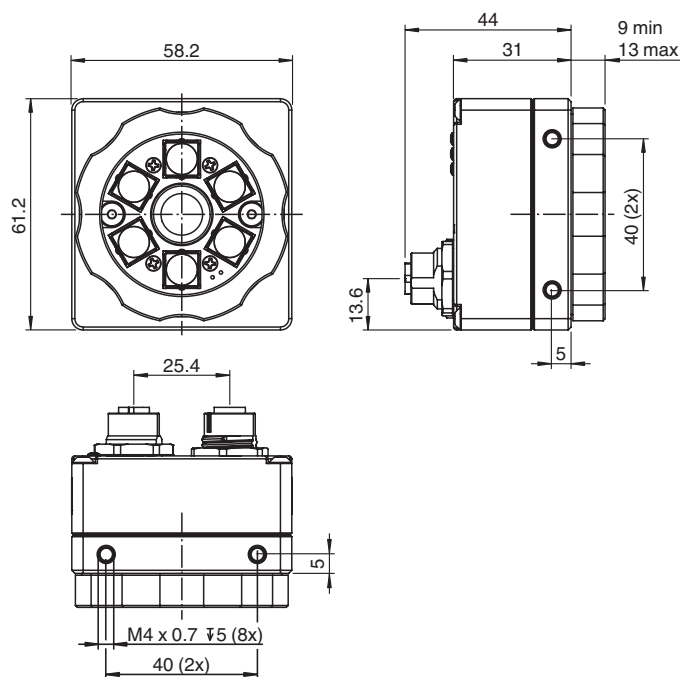
VOS2000-F226W-16MM-I

- Reads all standard 1-D and 2-D codes
- Reads DPM codes
- Multi code reading
- Output string formatting
- Code quality output
- 32 Jobs on-board can be saved
- Offline parameterization
- 1.2 megapixel resolution
- Integrated illumination
- Mechanical focus adjustment

Vision sensor for 1-D and 2-D code reading; Resolution: 1280 x 960 pixels; Light source: integrated LED flash, white; Lens: M12 lens; Focal length: 16 mm



Dimensions



Technical Data

General specifications

Sensing range	55 mm x 41 mm at 200 mm reading distance and min. module size of 0.1 mm (1-D and 2-D barcode) 295 mm x 221 mm at 1000 mm reading distance and min. module size of 0.4 mm (1-D barcode) or 0.54 mm (2-D barcode)
Light source	Integrated LED lightning , white
Picture detail	dependant of operating distance

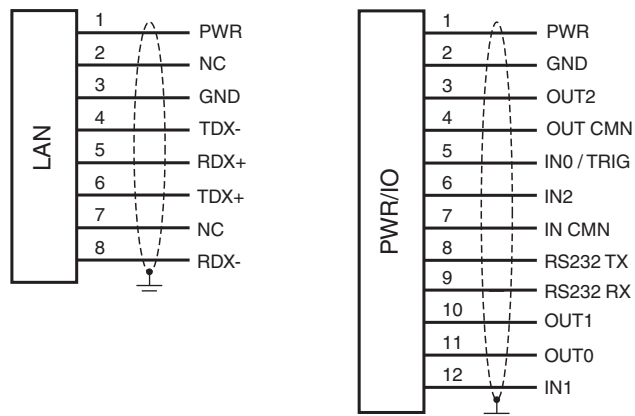
Technical Data

Readable codes		1-D Codes: Code 128, Code 39, Int 2 of 5, Codabar, UPC-A/E, EAN-8/13, Code 11, Code 32, Plessey, MSI Plessey, Telepen, BC 412, Pharmacode, DataBar, Postcode, Trioptic 2-D Codes: Data Matrix, QR-Code, Micro QR-Code, PDF417, Micro PDF417, Aztec, Han Xin Code, Maxi Code, Grid Matrix, Dotcode
Trigger mode		Free-running or triggered externally
Depth of focus		$\pm 5\%$ of the operating distance
Focal length		16 mm
Evaluation frequency		30 Hz
Target velocity		max. 4 m/s
Resolution		1280 x 960 pixels
Image sensor		1/3" CMOS monochrom Global Shutter 3.75 μm pixel size
Lens		M12 integrated lens
Parameterization/software		
Parameter assignment		Parameterization via PC user interface VCT Tool
Evaluation procedure		
Identification and Verification		1-D and 2-D codes
Indicators/operating means		
LED 1		Steady blue: sensor started, not set up Steady green: job loaded, ready for execution Flashing green: job loaded and being executed, capture in progress Steady red: sensor fault
LED 2		Flashing blue: starting (duration approx. 20 seconds) Steady green: measurement successful (Pass) Steady blue: measurement borderline (Recycle) Steady red: measurement unsuccessful (Fail)
LED 3		Steady blue: warm reset or restart Steady red/green/yellow: network activity
Focus setting		Focus adjustable via centering
Electrical specifications		
Operating voltage	U_B	12 ... 30 V DC
No-load supply current	I_0	300 mA
Interface 1		
Interface type		Ethernet
Protocol		PROFINET IO TCP/IP EtherNet/IP
Transfer rate		100 MBit/s
Interface 2		
Interface type		RS-232 , serial
Transfer rate		115.2 kBit/s
Input		
Input type		optically decoupled Inputs
Input voltage		Logic low (OFF): 0 ... 3 V Logic high (ON): 11 ... 30 V Switching threshold: 12 V
Control input		Image capture trigger + 2 general purpose inputs 2 inputs can be used for job switching
Input current		8 mA (typical)
Internal protection circuit		3 k Ω / 4000 V (rms)
Switching delay		Switch-on time (ON): 20 μs Switch-off time (OFF): 10 μs Image capture trigger: 62 μs (until image capture is triggered)
Output		
Output type		3 general purpose outputs , freely programmable , optically decoupled
Switching voltage		max. 30 V
Switching current		max. 100 mA each output

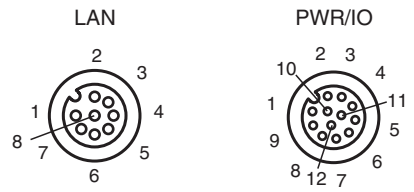
Technical Data

Switching delay		Switch-on time (ON): 150 μs Switch-off time (OFF): 50 μs
Standard conformity		
Emitted interference		EN 61000-6-4:2007+A1:2011
Noise immunity		EN 61000-6-2:2005
Approvals and certificates		
Approvals		CE
Ambient conditions		
Ambient temperature		0 ... 50 °C (32 ... 122 °F)
Storage temperature		-20 ... 60 °C (-4 ... 140 °F)
Mechanical specifications		
Degree of protection		IP67
Connection		8-pin M12 socket A-coded ; 12-pin M12 socket
Material		
Housing		anodized aluminum , plastic
Optical face		Plastic pane
Installation		Mounting bracket
Mass		approx. 200 g
Dimensions		
Height		57 mm
Width		58 mm
Length		61 mm

Connection Assignment



Connection





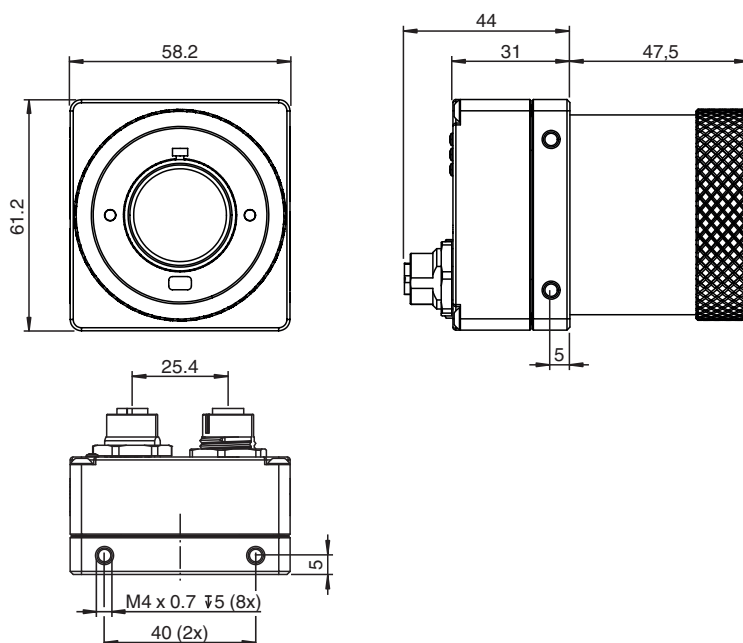
Vision Sensor VOS2000-F226-C-I

- Reads all standard 1-D and 2-D codes
- Reads DPM codes
- Multi code reading
- Output string formatting
- Code quality output
- 32 Jobs on-board can be saved
- Offline parameterization
- 1.2 megapixel resolution
- Exchangeable lens (C-Mount)
- Mechanical focus adjustment

Vision sensor for 1-D and 2-D code reading; Resolution: 1280 x 960 pixels; Light source: external illumination; Lens: C-mount connection



Dimensions



Protective cover and lens not included in the scope of delivery.

Technical Data

General specifications

Sensing range

1-D barcode: 225 mm x 169 mm with min. line width of 0.3 mm (reading distance depends on lens)
 2-D barcode: 166 mm x 125 mm with min. module size of 0.3 mm (reading distance depends on lens)
 1-D barcode: 376 mm x 282 mm with min. line width of 0.5 mm (reading distance depends on lens)
 2-D barcode: 278 mm x 208 mm with min. module size of 0.5 mm (reading distance depends on lens)

Light source

External lighting

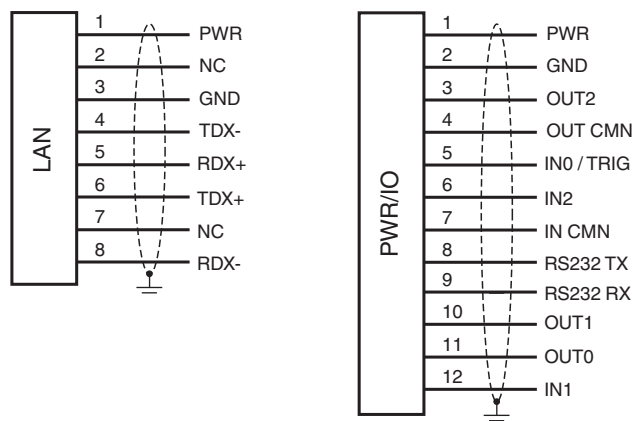
Technical Data

Picture detail		dependant of operating distance
Readable codes		1-D Codes: Code 128, Code 39, Int 2 of 5, Codabar, UPC-A/E, EAN-8/13, Code 11, Code 32, Plessey, MSI Plessey, Telepen, BC 412, Pharmacode, DataBar, Postcode, Trioptic 2-D Codes: Data Matrix, QR-Code, Micro QR-Code, PDF417, Micro PDF417, Aztec, Han Xin Code, Maxi Code, Grid Matrix, Dotcode
Trigger mode		Free-running or triggered externally
Depth of focus		± 5 % of the operating distance
Evaluation frequency		30 Hz
Target velocity		max. 4 m/s
Resolution		1280 x 960 pixels
Image sensor		1/3" CMOS monochrom Global Shutter 3.75 µm pixel size
Parameterization/software		
Parameter assignment		Parameterization via PC user interface VCT Tool
Evaluation procedure		
Identification and Verification		1-D and 2-D codes
Indicators/operating means		
LED 1		Steady blue: sensor started, not set up Steady green: job loaded, ready for execution Flashing green: job loaded and being executed, capture in progress Steady red: sensor fault
LED 2		Flashing blue: starting (duration approx. 20 seconds) Steady green: measurement successful (Pass) Steady blue: measurement borderline (Recycle) Steady red: measurement unsuccessful (Fail)
LED 3		Steady blue: warm reset or restart Steady red/green/yellow: network activity
Electrical specifications		
Operating voltage	U_B	12 ... 30 V DC
No-load supply current	I_0	300 mA
Interface 1		
Interface type		Ethernet
Protocol		PROFINET IO TCP/IP EtherNet/IP
Transfer rate		100 MBit/s
Interface 2		
Interface type		RS-232 , serial
Transfer rate		115.2 kBit/s
Input		
Input type		optically decoupled Inputs
Input voltage		Logic low (OFF): 0 ... 3 V Logic high (ON): 11 ... 30 V Switching threshold: 12 V
Control input		Image capture trigger + 2 general purpose inputs 2 inputs can be used for job switching
Input current		8 mA (typical)
Internal protection circuit		3 kΩ / 4000 V (rms)
Switching delay		Switch-on time (ON): 20 µs Switch-off time (OFF): 10 µs Image capture trigger: 62 µs (until image capture is triggered)
Output		
Output type		3 general purpose outputs , freely programmable , optically decoupled
Switching voltage		max. 30 V
Switching current		max. 100 mA each output
Switching delay		Switch-on time (ON): 150 µs Switch-off time (OFF): 50 µs
Standard conformity		

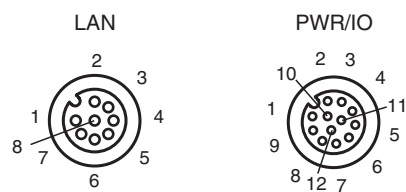
Technical Data

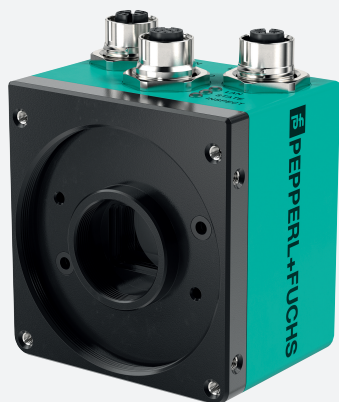
Emitted interference	EN 61000-6-4:2007+A1:2011
Noise immunity	EN 61000-6-2:2005
Approvals and certificates	
Approvals	CE
Ambient conditions	
Ambient temperature	0 ... 50 °C (32 ... 122 °F)
Storage temperature	-20 ... 60 °C (-4 ... 140 °F)
Mechanical specifications	
Degree of protection	IP67 (with mounted lens protection cover)
Connection	8-pin M12 socket A-coded ; 12-pin M12 socket
Material	
Housing	anodized aluminum , plastic
Installation	Mounting bracket
Mass	approx. 200 g
Objective connection	C-mount connection for external lens with different focal lengths
Dimensions	
Height	57 mm
Width	58 mm
Length	61 mm

Connection Assignment



Connection





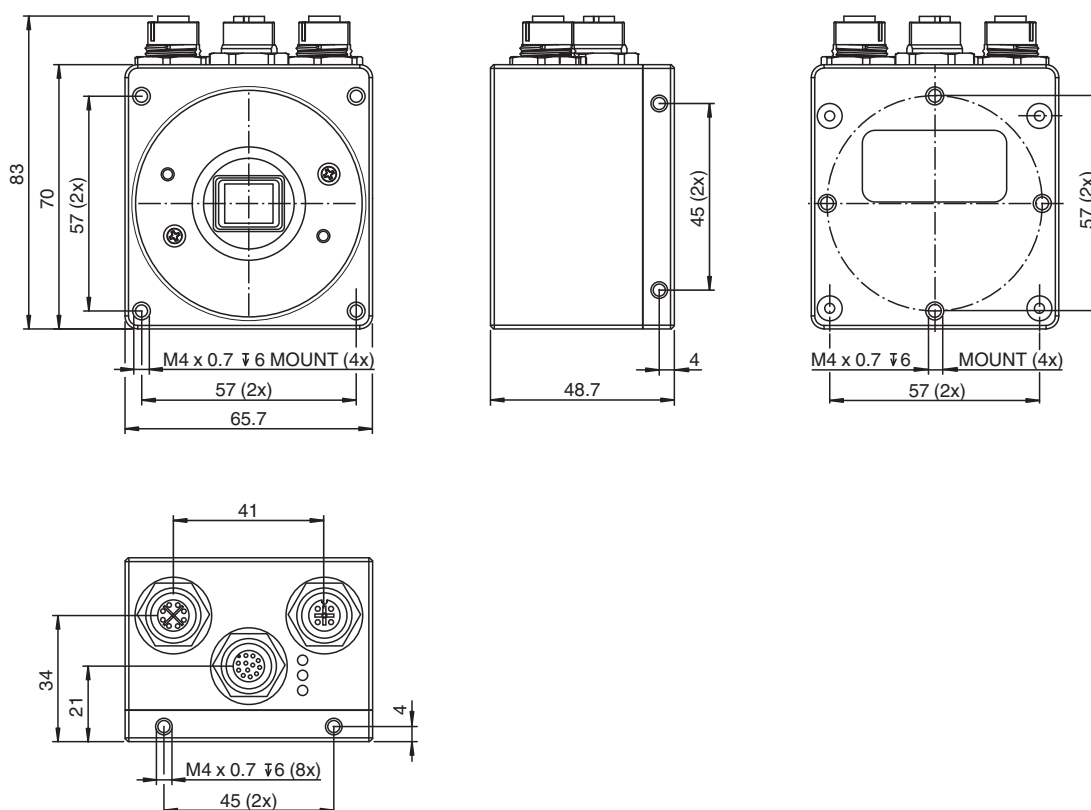
Vision Sensor VOS5000-F227-C-I

- Reads all standard 1-D and 2-D codes
- Reads DPM codes
- Multi code reading
- Output string formatting
- Code quality output
- 32 Jobs on-board can be saved
- Offline parameterization
- 5.2 megapixel resolution
- Exchangeable lens (C-Mount)
- Mechanical focus adjustment

Vision sensor for 1-D and 2-D code reading; Resolution: 2560 x 2048 pixels; Light source: external illumination; Lens: C-mount connection



Dimensions



Technical Data

General specifications

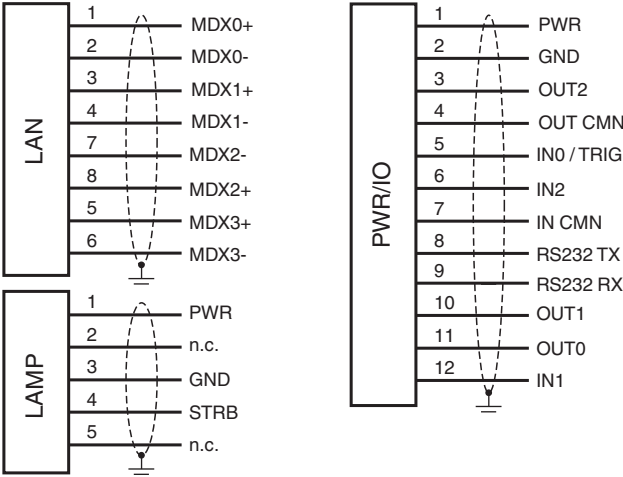
Technical Data

Sensing range	1-D barcode: 451 mm x 361 mm with min. line width of 0.3 mm (reading distance depends on lens) 2-D barcode: 333 mm x 267 mm with min. module size of 0.3 mm (reading distance depends on lens) 1-D barcode: 752 mm x 602 mm with min. line width of 0.5 mm (reading distance depends on lens) 2-D barcode: 556 mm x 445 mm with min. module size of 0.5 mm (reading distance depends on lens)	
Light source		External lighting
Picture detail		dependant of operating distance
Readable codes		1-D Codes: Code 128, Code 39, Int 2 of 5, Codabar, UPC-A/E, EAN-8/13, Code 11, Code 32, Plessey, MSI Plessey, Telepen, BC 412, Pharmacode, DataBar, Postcode, Trioptic 2-D Codes: Data Matrix, QR-Code, Micro QR-Code, PDF417, Micro PDF417, Aztec, Han Xin Code, Maxi Code, Grid Matrix, Dotcode
Trigger mode		Free-running or triggered externally
Depth of focus		± 5 % of the operating distance
Evaluation frequency		25 Hz
Target velocity		max. 4 m/s
Resolution		2560 x 2048 pixels
Image sensor		1" CMOS monochrom Global Shutter 5 µm pixel size
Parameterization/software		
Parameter assignment		Parameterization via PC user interface VCT Tool
Evaluation procedure		
Identification and Verification		1-D and 2-D codes
Indicators/operating means		
LED 1		Steady blue: sensor started, not set up Steady green: job loaded, ready for execution Flashing green: job loaded and being executed, capture in progress Steady red: sensor fault
LED 2		Flashing blue: starting (duration approx. 20 seconds) Steady green: measurement successful (Pass) Steady blue: measurement borderline (Recycle) Steady red: measurement unsuccessful (Fail)
LED 3		Steady blue: warm reset or restart Steady red/green/yellow: network activity
Electrical specifications		
Operating voltage	U_B	21 ... 30 V DC
No-load supply current	I_0	300 mA
Interface 1		
Interface type		Ethernet
Protocol		PROFINET IO TCP/IP EtherNet/IP
Transfer rate		1 GBit/s
Interface 2		
Interface type		RS-232 , serial
Transfer rate		115.2 kBit/s
Input		
Input type		optically decoupled Inputs
Input voltage		Logic low (OFF): 0 ... 3 V Logic high (ON): 11 ... 30 V Switching threshold: 12 V
Control input		Image capture trigger + 2 general purpose inputs 2 inputs can be used for job switching
Input current		8 mA (typical)
Internal protection circuit		3 kΩ / 4000 V (rms)
Switching delay		Switch-on time (ON): 20 µs Switch-off time (OFF): 10 µs Image capture trigger: 62 µs (until image capture is triggered)
Output		

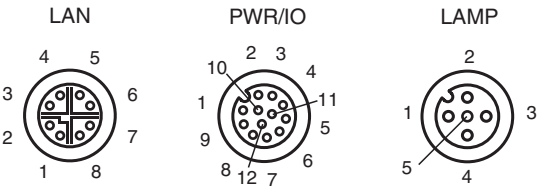
Technical Data

Output type	3 general purpose outputs , freely programmable , optically decoupled	
Switching voltage		max. 30 V
Switching current		max. 100 mA each output
Switching delay		Switch-on time (ON): 400 µs Switch-off time (OFF): 80 µs
Standard conformity		
Emitted interference		EN 61000-6-4:2007+A1:2011
Noise immunity		EN 61000-6-2:2005
Approvals and certificates		
Approvals		CE
Ambient conditions		
Ambient temperature		0 ... 50 °C (32 ... 122 °F)
Storage temperature		-20 ... 60 °C (-4 ... 140 °F)
Mechanical specifications		
Degree of protection		IP67 (with mounted lens protection cover)
Connection		5-pin M12 socket ; 8-pin M12 socket X-coded ; 12-pin M12 socket
Material		
Housing		anodized aluminum , plastic
Installation		Mounting bracket
Mass		approx. 200 g
Objective connection		C-mount connection for external lens with different focal lengths
Dimensions		
Height		48 mm
Width		66 mm
Length		83 mm

Connection Assignment



Connection





Vision Sensor

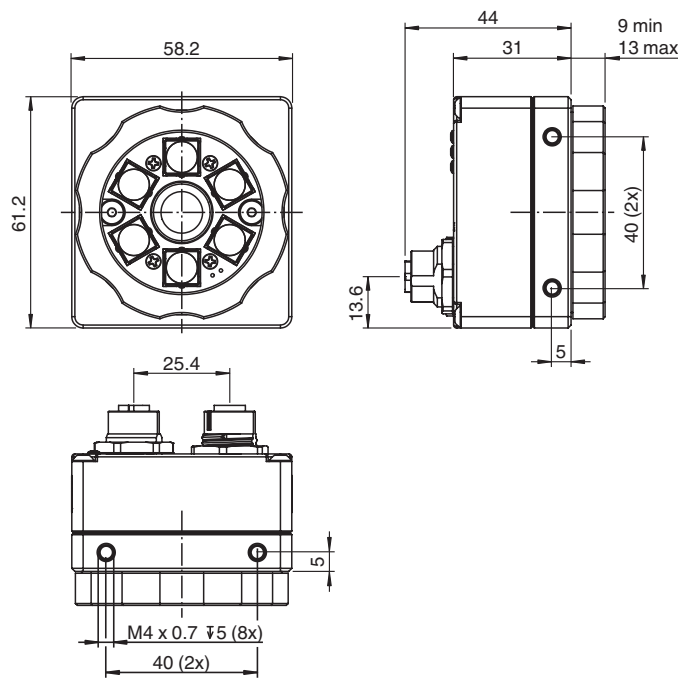
VOS1000C-F226W-8MM-S

- Color sensor
- Wide range of detection tools for flexible inspection tasks
- Combinable vision tools for feature detection, completeness checking, code reading, text recognition and object position checking
- 32 Jobs on-board can be saved
- Integrated illumination
- Mechanical focus adjustment
- Easy integration with flexible programmable data output

Vision sensor for advanced object detection;Resolution: 640 x 480 pixels; Light source: integrated LED flash, white; Lens: M12 lens; Focal length: 8 mm



Dimensions



Technical Data

General specifications	
Light source	Integrated LED lightning , white
Picture detail	dependant of operating distance (see manual)
Trigger mode	Free-running or triggered externally
Depth of focus	$\pm 5\%$ of the operating distance
Focal length	8 mm
Resolution	640 x 480 pixels
Image sensor	1/3" CMOS color Global Shutter 3.75 μ m pixel size

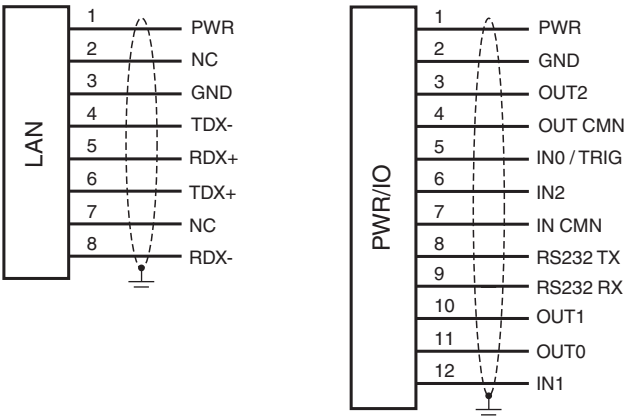
Technical Data

Lens		M12 integrated lens
Parameterization/software		
Parameter assignment		Parameterization via PC user interface VCT Tool
Evaluation procedure		
Positioning and Guidance		Based on Parts or product marks, up to four Locators to detect X,Y shift and rotation
Identification and Verification		OCR, 1-D and 2-D codes
Detection & Pattern Matching		Pixel-, contour- or edge count
Measuring		Distance, angle, circle size (after calibration)
Indicators/operating means		
LED 1		Steady blue: sensor started, not set up Steady green: job loaded, ready for execution Flashing green: job loaded and being executed, capture in progress Steady red: sensor fault
LED 2		Flashing blue: starting (duration approx. 20 seconds) Steady green: measurement successful (Pass) Steady blue: measurement borderline (Recycle) Steady red: measurement unsuccessful (Fail)
LED 3		Steady blue: warm reset or restart Steady red/green/yellow: network activity
Focus setting		Focus adjustable via centering
Electrical specifications		
Operating voltage	U_B	12 ... 30 V DC
No-load supply current	I_0	300 mA
Interface 1		
Interface type		Ethernet
Protocol		PROFINET IO TCP/IP EtherNet/IP
Transfer rate		100 MBit/s
Interface 2		
Interface type		RS-232 , serial
Transfer rate		115.2 kBit/s
Input		
Input type		optically decoupled Inputs
Input voltage		Logic low (OFF): 0 ... 3 V Logic high (ON): 11 ... 30 V Switching threshold: 12 V
Control input		Image capture trigger + 2 general purpose inputs 2 inputs can be used for job switching
Input current		8 mA (typical)
Internal protection circuit		3 k Ω / 4000 V (rms)
Switching delay		Switch-on time (ON): 20 μ s Switch-off time (OFF): 10 μ s Image capture trigger: 62 μ s (until image capture is triggered)
Output		
Output type		3 general purpose outputs , freely programmable , optically decoupled
Switching voltage		max. 30 V
Switching current		max. 100 mA each output
Switching delay		Switch-on time (ON): 150 μ s Switch-off time (OFF): 50 μ s
Standard conformity		
Emitted interference		EN 61000-6-4:2007+A1:2011
Noise immunity		EN 61000-6-2:2005
Approvals and certificates		
Approvals		CE
Ambient conditions		
Ambient temperature		0 ... 50 °C (32 ... 122 °F)
Storage temperature		-20 ... 60 °C (-4 ... 140 °F)
Mechanical specifications		

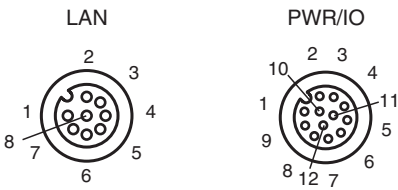
Technical Data

Degree of protection	IP67
Connection	8-pin M12 socket A-coded ; 12-pin M12 socket
Material	
Housing	anodized aluminum
Optical face	Plastic pane
Installation	Mounting bracket
Mass	approx. 200 g
Dimensions	
Height	57 mm
Width	58 mm
Length	61 mm

Connection Assignment



Connection





Vision Sensor

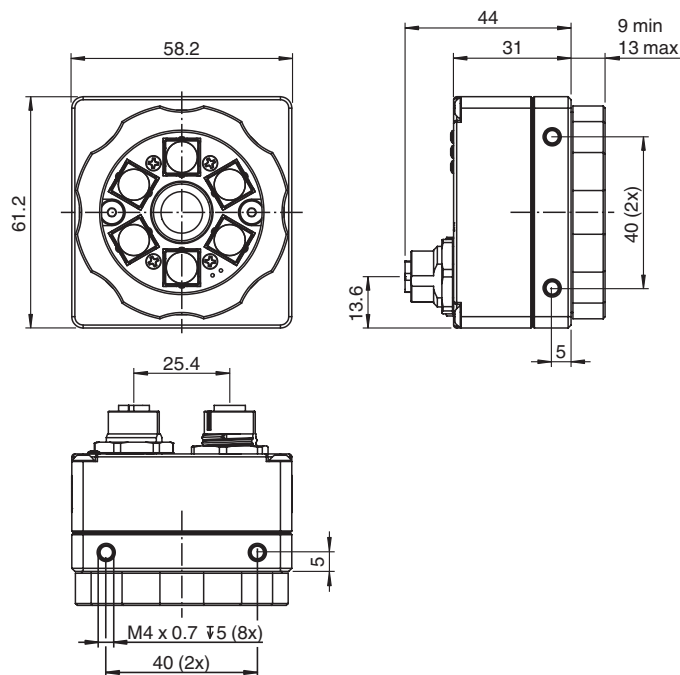
VOS2000-F226R-8MM-M

- Wide range of detection tools for flexible inspection tasks
- 32 Jobs on-board can be saved
- Integrated illumination
- Mechanical focus adjustment
- Easy integration with flexible programmable data output
- Combinable vision tools for characteristic check, completeness checking and object position checking

Vision sensor for charakteristik check; Resolution: 1280 x 960 pixels; Light source: integrated LED flash, red; Lens: M12 lens; Focal length: 8 mm



Dimensions



Technical Data

General specifications

Light source	Integrated LED lightning , red
Picture detail	dependant of operating distance (see manual)
Trigger mode	Free-running or triggered externally
Depth of focus	± 5 % of the operating distance
Focal length	8 mm
Resolution	1280 x 960 pixels
Image sensor	1/3" CMOS monochrom Global Shutter 3.75 µm pixel size

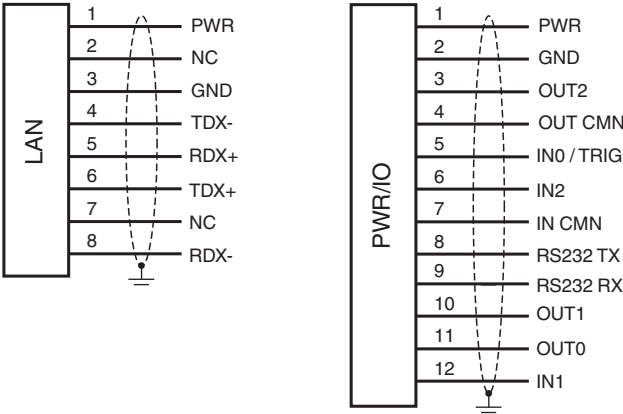
Technical Data

Lens		M12 integrated lens
Parameterization/software		
Parameter assignment		Parameterization via PC user interface VCT Tool
Evaluation procedure		
Positioning and Guidance		Based on Parts or product marks, up to four Locators to detect X,Y shift and rotation
Detection &Pattern Matching		Pixel-, contour- or edge count
Measuring		Distance
Indicators/operating means		
LED 1		Steady blue: sensor started, not set up Steady green: job loaded, ready for execution Flashing green: job loaded and being executed, capture in progress Steady red: sensor fault
LED 2		Flashing blue: starting (duration approx. 20 seconds) Steady green: measurement successful (Pass) Steady blue: measurement borderline (Recycle) Steady red: measurement unsuccessful (Fail)
LED 3		Steady blue: warm reset or restart Steady red/green/yellow: network activity
Focus setting		Focus adjustable via centering
Electrical specifications		
Operating voltage	U_B	12 ... 30 V DC
No-load supply current	I_0	300 mA
Interface 1		
Interface type		Ethernet
Protocol		PROFINET IO TCP/IP EtherNet/IP
Transfer rate		100 MBit/s
Interface 2		
Interface type		RS-232 , serial
Transfer rate		115.2 kBit/s
Input		
Input type		optically decoupled Inputs
Input voltage		Logic low (OFF): 0 ... 3 V Logic high (ON): 11 ... 30 V Switching threshold: 12 V
Control input		Image capture trigger + 2 general purpose inputs 2 inputs can be used for job switching
Input current		8 mA (typical)
Internal protection circuit		3 k Ω / 4000 V (rms)
Switching delay		Switch-on time (ON): 20 μ s Switch-off time (OFF): 10 μ s Image capture trigger: 62 μ s (until image capture is triggered)
Output		
Output type		3 general purpose outputs , freely programmable , optically decoupled
Switching voltage		max. 30 V
Switching current		max. 100 mA each output
Switching delay		Switch-on time (ON): 150 μ s Switch-off time (OFF): 50 μ s
Standard conformity		
Emitted interference		EN 61000-6-4:2007+A1:2011
Noise immunity		EN 61000-6-2:2005
Approvals and certificates		
Approvals		CE
Ambient conditions		
Ambient temperature		0 ... 50 °C (32 ... 122 °F)
Storage temperature		-20 ... 60 °C (-4 ... 140 °F)
Mechanical specifications		
Degree of protection		IP67

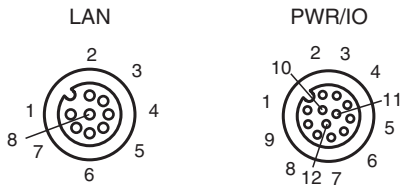
Technical Data

Connection	8-pin M12 socket A-coded ; 12-pin M12 socket
Material	
Housing	anodized aluminum
Optical face	Plastic pane
Installation	Mounting bracket
Mass	approx. 200 g
Dimensions	
Height	57 mm
Width	58 mm
Length	61 mm

Connection Assignment



Connection



По вопросам продаж и поддержки обращайтесь:

Алматы (727)345-47-04
Ангарск (3955)60-70-56
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Астрахань (8512)99-46-04
Барнаул (3852)73-04-60
Белгород (4722)40-23-64
Благовещенск (4162)22-76-07
Брянск (4832)59-03-52
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Киров (8332)68-02-04
Коломна (4966)23-41-49
Кострома (4942)77-07-48
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Красноярск (391)204-63-61
Курск (4712)77-13-04
Курган (3522)50-90-47
Липецк (4742)52-20-81

Магнитогорск (3519)55-03-13
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Набережные Челны (8552)20-53-41
Нижегород (831)429-08-12
Новокузнецк (3843)20-46-81
Ноябрьск (3496)41-32-12
Новосибирск (383)227-86-73
Омск (3812)21-46-40
Орел (4862)44-53-42
Оренбург (3532)37-68-04
Пенза (8412)22-31-16
Петрозаводск (8142)55-98-37
Псков (8112)59-10-37
Пермь (342)205-81-47

Ростов-на-Дону (863)308-18-15
Рязань (4912)46-61-64
Самара (846)206-03-16
Санкт-Петербург (812)309-46-40
Саратов (845)249-38-78
Севастополь (8692)22-31-93
Саранск (8342)22-96-24
Симферополь (3652)67-13-56
Смоленск (4812)29-41-54
Сочи (862)225-72-31
Ставрополь (8652)20-65-13
Сургут (3462)77-98-35
Сыктывкар (8212)25-95-17
Тамбов (4752)50-40-97
Тверь (4822)63-31-35

Тольятти (8482)63-91-07
Томск (3822)98-41-53
Тула (4872)33-79-87
Тюмень (3452)66-21-18
Ульяновск (8422)24-23-59
Улан-Удэ (3012)59-97-51
Уфа (347)229-48-12
Хабаровск (4212)92-98-04
Чебоксары (8352)28-53-07
Челябинск (351)202-03-61
Череповец (8202)49-02-64
Чита (3022)38-34-83
Якутск (4112)23-90-97
Ярославль (4852)69-52-93

Россия +7(495)268-04-70

Казахстан +7(727) 345-47-04

Беларусь +(375) 257-127-884

Узбекистан +998(71)205-18-59

Киргизия +996(312)96-26-47

эл.почта: phb@nt-rt.ru || сайт: <https://pepperl-fuchs.nt-rt.ru/>