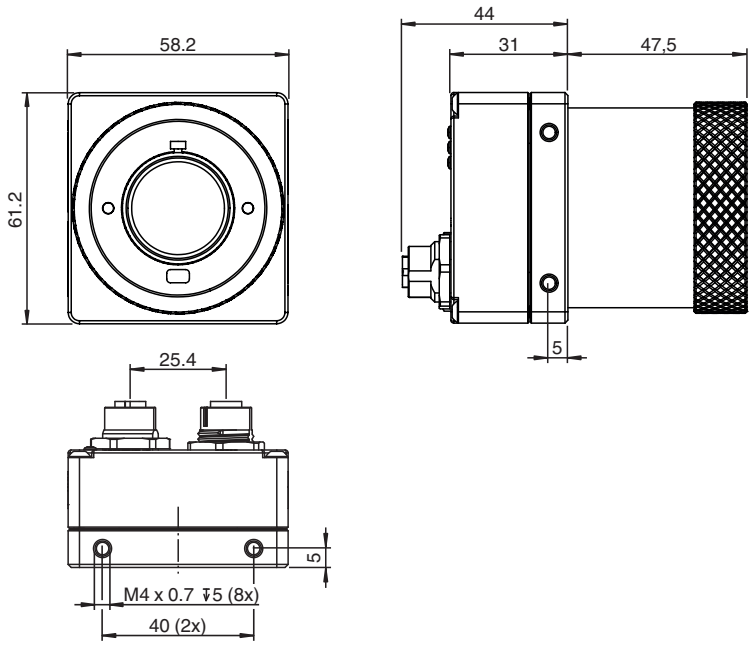
Vision Sensor

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

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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
Fieldbus		
Fieldbus type		PROFINET PN IO
Function		Data interface (result output, job change), trigger interface
PROFINET specification		V2.2
Real-time communication		PROFINET IO Real-Time (RT)
PROFINET conformance class		Conformance Class A
Refresh time		typ. 128 ms (depending on vision application)
Input data		264 Byte - Generic
Output data		264 Byte - Generic
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)

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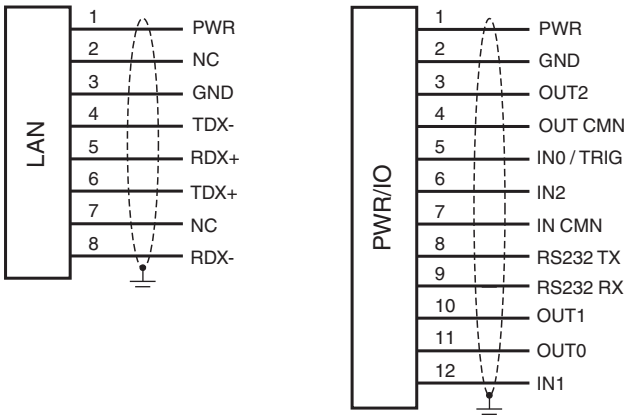
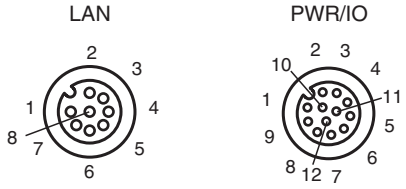
Switching delay		Switch-on time (ON): 20 µs Switch-off time (OFF): 10 µs Image capture trigger: 62 µs (until image capture is triggered)
Output		
Output type		3 general purpose outputs , freely programmable , optically decoupled
Switching voltage		max. 30 V
Switching current		max. 100 mA each output
Switching delay		Switch-on time (ON): 150 µs Switch-off time (OFF): 50 µs
Standard conformity		
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



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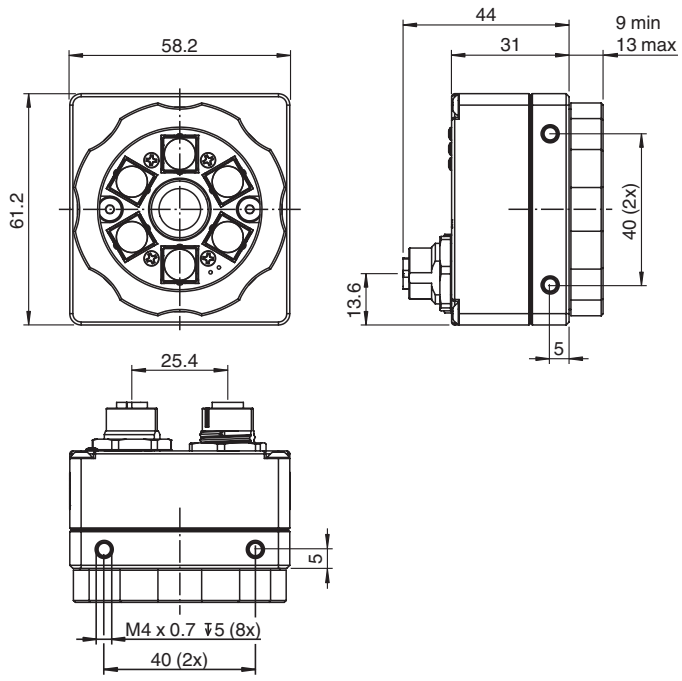
Vision Sensor

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

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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
Fieldbus		
Fieldbus type		PROFINET PN IO
Function		Data interface (result output, job change), trigger interface
PROFINET specification		V2.2
Real-time communication		PROFINET IO Real-Time (RT)
PROFINET conformance class		Conformance Class A
Refresh time		typ. 128 ms (depending on vision application)
Input data		264 Byte - Generic
Output data		264 Byte - Generic
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

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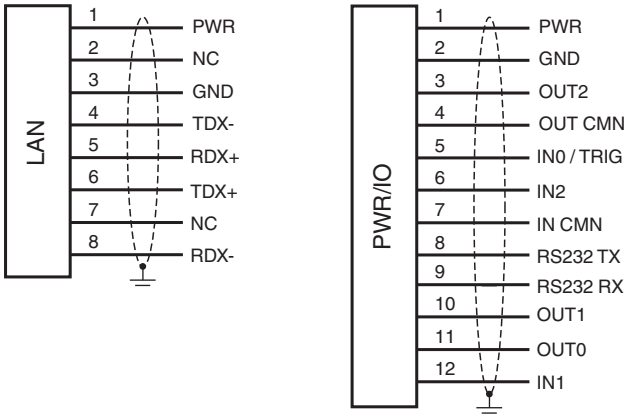
Technical Data

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	
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



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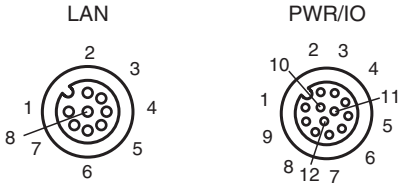
Connection



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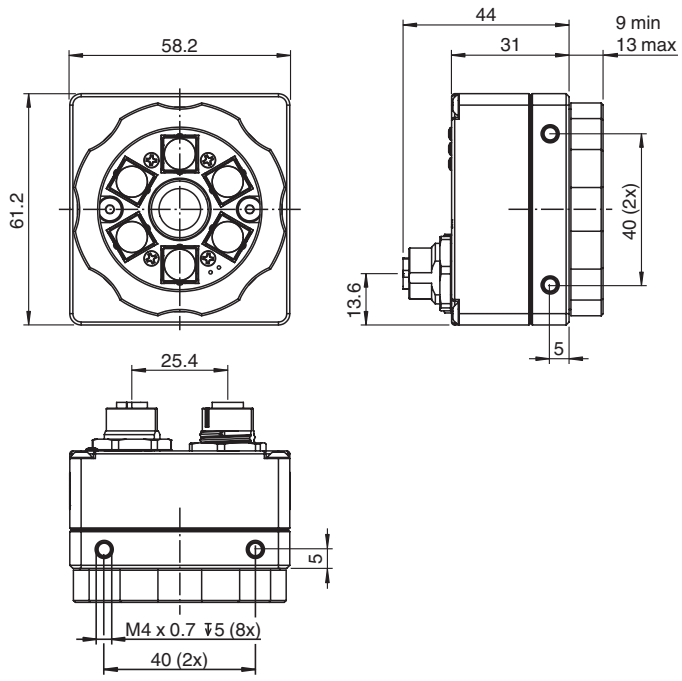
Vision Sensor

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

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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		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
Fieldbus		
Fieldbus type		PROFINET PN IO
Function		Data interface (result output, job change), trigger interface
PROFINET specification		V2.2
Real-time communication		PROFINET IO Real-Time (RT)
PROFINET conformance class		Conformance Class A
Refresh time		typ. 128 ms (depending on vision application)
Input data		264 Byte - Generic
Output data		264 Byte - Generic
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

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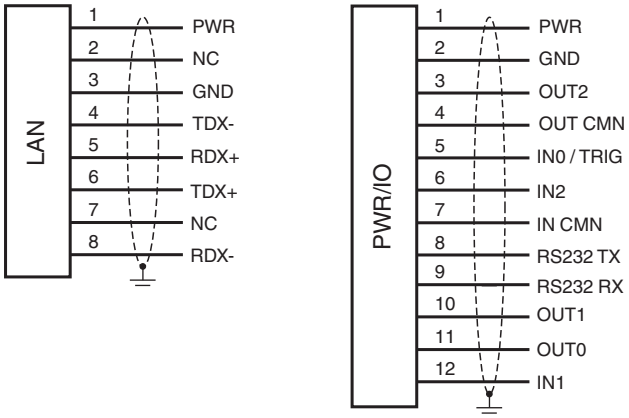
Technical Data

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		
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



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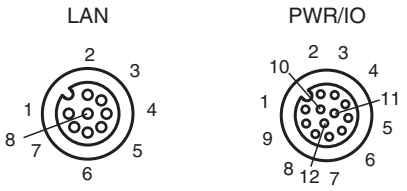
Connection



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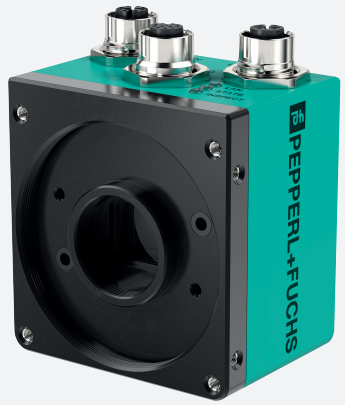


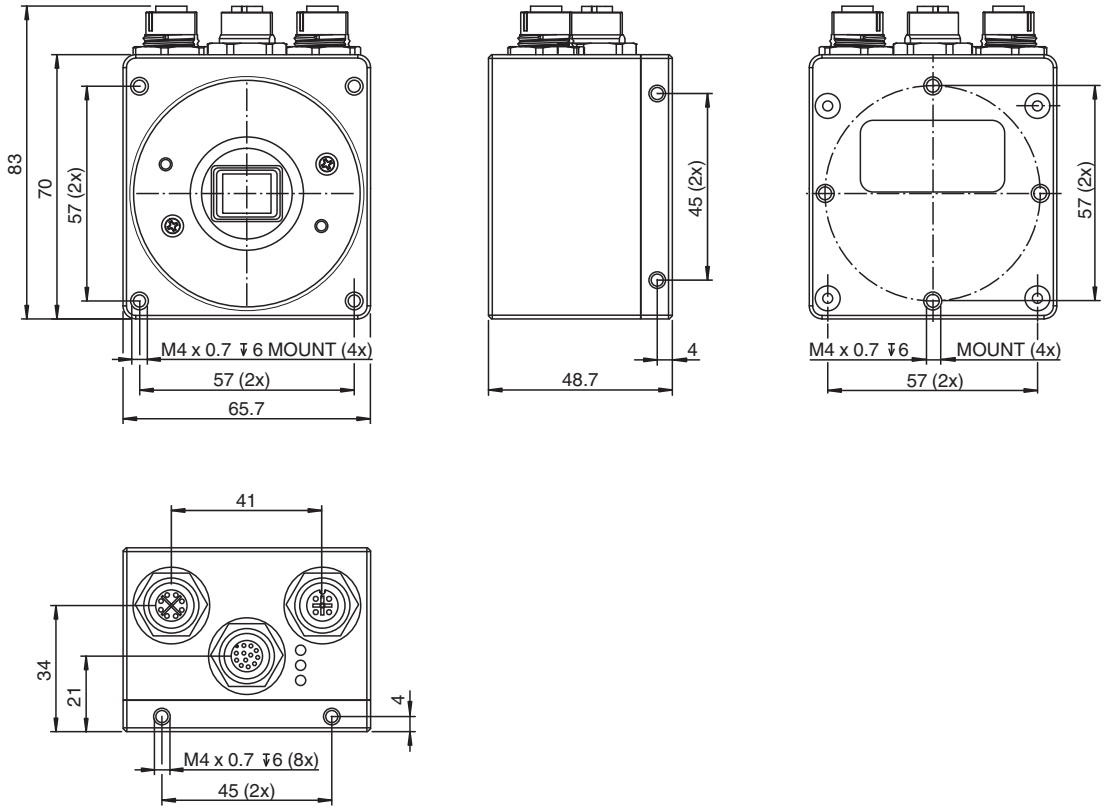
Vision Sensor

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

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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
Fieldbus		
Fieldbus type		PROFINET PN IO
Function		Data interface (result output, job change), trigger interface
PROFINET specification		V2.2
Real-time communication		PROFINET IO Real-Time (RT)
PROFINET conformance class		Conformance Class A
Refresh time		typ. 128 ms (depending on vision application)
Input data		264 Byte - Generic
Output data		264 Byte - Generic
Transfer rate		1 GBit/s
Interface 2		
Interface type		RS-232 , serial
Transfer rate		115.2 kBit/s
Input		
Input type		optically decoupled Inputs

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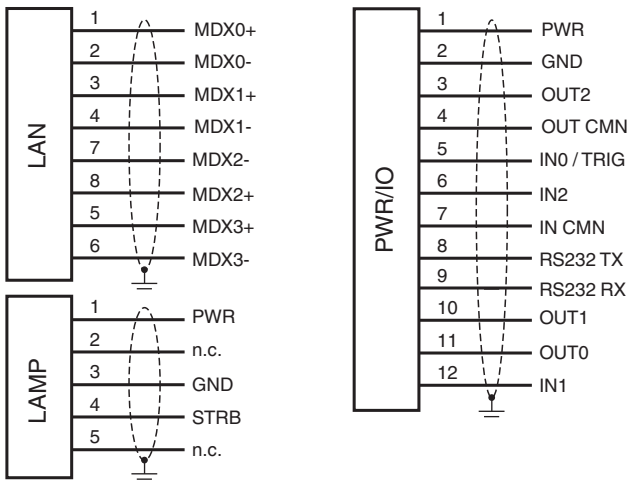
Technical Data

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): 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



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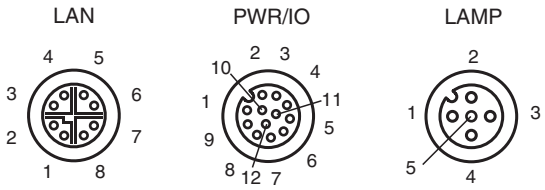
Connection



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