

ORDER CODE

How to Compile Your Order Code?

Different information such as detector type, optical immersion, number of stages TE-cooler, the wavelength a detector is optimized for, dimensions of optical area, package type, window type and FOV combine to create **VIGO System's Detector Order Code**.

Below, there are information needed to specify exactly the required detector.

Type	Immersion	-	Cooling	-	λ_{opt}	-	Length	x	Width	-	Package Type	-	Window	-	FOV
Type	Immersion	-	Cooling	-	λ_{opt}	-	Φ Diameter			-	Package Type	-	Window	-	FOV

Examples

PVI-2TE-5-0.1x0.1-TO8-wBaF2-35

PV	I	-	2TE	-	5	-	0.1	x	0.1	-	TO8	-	wAl2O3	-	36
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PEM-10.6-1x1-PEM-wBaF2-51

PEM		-		-	10.6	-	1	x	1	1	PEM	-	wZnSeAR	-	51
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PC-10.6-1x1-BNC-NoWindow-102

PC		-		-	10.6	-	1	x	1	1	BNC	-	NoWindow	-	102
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PVI-2TE-6- Φ 0.05-TO8-pGeAR-60

PV	I	-	2TE	-	6	-	Φ 0.05			-	TO8	-	pGeAR	-	36
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Detector Types

PC – photoconductor

PV – single junction photovoltaic detector

PVM – LWIR multiple junction photovoltaic detector

PEM – photoelectromagnetic detector

PCQ – quadrant photoconductor

PVMQ – quadrant LWIR multiple junction photovoltaic detector

Optical Immersion

All detectors can be monolithically integrated with immersion microlens. Please add letter "I" to the end of **Detector Type** symbol for immersed detectors. **Hyperhemispherical** immersion microlens is offered as a standard.

TE Cooling

VIGO **PC**, **PV** and **PVM** detectors are available as uncooled devices or equipped with multiple stage TE cooling. Please add "2TE", "3TE" or "4TE" for two-, three-, or four stage TE cooled detectors respectively.

Wavelength Range and Optimum Wavelength λ_{opt}

VIGO standard detectors are optimized for specific wavelength (see Table below). Other wavelengths are available as an option.

Detector Type	Optimum Wavelength [μ m]												
PC, PCI				4	5	6			9	10.6			
PC-2TE, PCI-2TE				4	5	6			9	10.6	12	13	
PC-3TE, PCI-3TE									9	10.6	12	13	
PC-4TE, PCI-4TE									9	10.6	12	13	14
PV, PVI	3	3.4	4	5	6	8							
PV-nTE, PVI-nTE	3	3.4	4	5	6	8				10.6			
PVM, PVMI, PVM-nTE, PVMI-nTE						8				10.6			
PEM, PEMI, PCQ, PVMQ										10.6			

Optical Area Availability Table

Typical VIGO detectors are **squared-shaped**. Single junction photovoltaic devices are also available as a circular upon request.

Please specify dimension (length×width) for square or diameter (Φ) for circular areas.

Detector Type	Optical Area [mm×mm]									
	0.025×0.025	0.05×0.05	0.1×0.1	0.2×0.2	0.25×0.25	0.5×0.5	1×1	2×2	3×3	4×4
PV-3	O	X	X	O		O	O			
PV-2TE-3	O	X	X	O		O	O			
PV-3TE-3	O	X	X	O		O	O			
PV-4TE-3	O	X	X	O		O	O			
PVI-3					O	X	X	O		
PVI-2TE-3					O	X	X	O		
PVI-3TE-3					O	X	X	O		
PVI-4TE-3					O	X	X	O		
PV-3.4	O	X	X	O		O	O			
PV-2TE-3.4	O	X	X	O		O	O			
PV-3TE-3.4	O	X	X	O		O	O			
PV-4TE-3.4	O	X	X	O		O	O			
PVI-3.4					O	X	X	O		
PVI-2TE-3.4					O	X	X	O		
PVI-3TE-3.4					O	X	X	O		
PVI-4TE-3.4					O	X	X	O		
PC-4	X	X	X	X	X	X	X	X	X	X
PC-2TE-4	X	X	X	X	X	X	X	X		
PCI-4					X	X	X	X		
PCI-2TE-4					X	X	X	X		
PV-4	O	X	X	O		O	O			
PV-2TE-4	O	X	X	O		O	O			
PV-3TE-4	O	X	X	O		O	O			
PV-4TE-4	O	X	X	O		O	O			
PVI-4					O	X	X	O		
PVI-2TE-4					O	X	X	O		
PVI-3TE-4					O	X	X	O		
PVI-4TE-4					O	X	X	O		
PC-5	X	X	X	X	X	X	X	X	X	X
PC-2TE-5	X	X	X	X	X	X	X	X		
PCI-5					X	X	X	X		
PCI-2TE-5					X	X	X	X		
PV-5	O	X	X	O		O	O			
PV-2TE-5	O	X	X	O		O	O			
PV-3TE-5	O	X	X	O		O	O			
PV-4TE-5	O	X	X	O		O	O			
PVI-5					O	X	X	O		
PVI-2TE-5					O	X	X	O		
PVI-3TE-5					O	X	X	O		
PVI-4TE-5					O	X	X	O		
PC-6	X	X	X	X	X	X	X	X	X	X
PC-2TE-6	X	X	X	X	X	X	X	X		
PCI-6					X	X	X	X		
PCI-2TE-6					X	X	X	X		
PV-6	O	X	X	O		O	O			
PV-2TE-6	O	X	X	O		O	O			
PV-3TE-6	O	X	X	O		O	O			
PV-4TE-6	O	X	X	O		O	O			
PVI-6					O	X	X			
PVI-2TE-6					O	X	X			
PVI-3TE-6					O	X	X			
PVI-4TE-6					O	X	X			
PV-8	X	X ⁷	P							
PV-2TE-8	X	X ⁷	P							
PV-3TE-8	X	X ⁷	P							
PV-4TE-8	X	X ⁷	P							
PVI-8					X	X ⁷	P			
PVI-2TE-8					X	X ⁷	P			
PVI-3TE-8					X	X ⁷	P			
PVI-4TE-8				X	X	X ⁷	P			
PVM-8	O	O	X	X	O	O	X	X	X	X
PVM-2TE-8	O	O	X	X	O	O	X	X	X	
PVMI-8					O	O	X	X		
PVMI-2TE-8					O	O	X	X		
PVMI-3TE-8					O	O	X	X		
PVMI-4TE-8					O	O	X	X		
PC-9	X	X	X	X	X	X	X	X	X	X
PC-2TE-9	X	X	X	X	X	X	X	X		
PC-3TE-9	X	X	X	X	X	X	X	X		
PC-4TE-9	X	X	X	X	X	X	X	X		
PCI-9					X	X	X	X		
PCI-2TE-9					X	X	X	X		
PCI-3TE-9					X	X	X	X		
PCI-4TE-9					X	X	X	X		
PC-10.6	X	X	X	X	X	X	X	X	X	X
PC-2TE-10.6	X	X	X	X	X	X	X	X		
PC-3TE-10.6	X	X	X	X	X	X	X	X		
PC-4TE-10.6	X	X	X	X	X	X	X	X		

Detector Type	Optical Area [mm×mm]									
	0.025×0.025	0.05×0.05	0.1×0.1	0.2×0.2	0.25×0.25	0.5×0.5	1×1	2×2	3×3	4×4
PCI-10.6					X	X	X	X		
PCI-2TE-10.6					X	X	X	X		
PCI-3TE-10.6					X	X	X	X		
PCI-4TE-10.6					X	X	X	X		
PV-2TE-10.6	X	X ⁷	P							
PV-3TE-10.6	X	X ⁷	P							
PV-4TE-10.6	X	X ⁷	P							
PVI-2TE-10.6					X	X ⁷	P			
PVI-3TE-10.6					X	X ⁷	P			
PVI-4TE-10.6					X	X ⁷	P			
PVM-10.6	O	O	X	X	O	O	X	X	X	X
PVM-2TE-10.6	O	O	X	X	O	O	X	X	X	
PVMI-10.6					O	O	X	X		
PVMI-2TE-10.6					O	O	X	X		
PVMI-3TE-10.6					O	O	X	X		
PVMI-4TE-10.6					O	O	X	X		
PEM-10.6			O	O	O	O	X	X		
PEMI-10.6					O	O	X	X		
PCQ-10.6		X	X	X	X	X	X	X	X	X
PC-2TE-12	X	X	X	X	X	X	X	X		
PC-3TE-12	X	X	X	X	X	X	X	X		
PC-4TE-12	X	X	X	X	X	X	X	X		
PCI-2TE-12					X	X	X	X		
PCI-3TE-12					X	X	X	X		
PCI-4TE-12					X	X	X	X		
PC-2TE-13	X	X	X	X	X	X	X	X		
PC-3TE-13	X	X	X	X	X	X	X	X		
PC-4TE-13	X	X	X	X	X	X	X	X		
PCI-2TE-13					X	X	X	X		
PCI-3TE-13					X	X	X	X		
PCI-4TE-13					X	X	X	X		
PC-4TE-14					X	X	X	X		
PCI-4TE-14					X	X	X	X		

⁷ Devices may require reverse bias in order to increase dynamic resistance and improve frequency response.

X – standard detector - operating without bias

P – default - operating with reverse bias

O – detectors available upon request, parameters may vary from these in data sheets

Package Type

VIGO detectors are typically offered in four different packages:

Package Type	Detector Type
BNC, TO39	PC, PCI, PV, PVI, PVM, PVMI
TO8	PC-nTE, PCI-nTE, PV-nTE, PVI-nTE, PVM-nTE, PVMI-nTE, PCQ, PVMQ
PEM	PEM, PEMI

Window Type

VIGO TE cooled detectors are typically provided with:

- 3° wedged Al₂O₃ windows (wAl2O3)
- 3° wedged ZnSe AR coated window (wZnSeAR)

When no window is needed (for uncooled detectors), “NoWindow” attribute must be added.

Other Windows are available as following options:

Material	Hardness [kg/mm ²]		AR Coating	Symbol
BaF ₂	82	wedged	no	wBaF2
Si	1100	wedged	yes	wSiAR
		planar	yes	pSiAR
ZnSe	120	wedged	yes	wZnSeAR
		planar	yes	pZnSeAR

Material	Hardness [kg/mm ²]		AR Coating	Symbol
Al ₂ O ₃	1370	wedged	yes	wAl2O3AR
			no	wAl2O3
		planar	yes	pAl2O3AR
			no	pAl2O3
Ge	780	wedged	yes	wGeAR
		planar	yes	pGeAR

black – standard (without extra charge)

red – nonstandard with extra charge

Field of View: FOV

Angular field of view of detector in degrees [°]. FOV depends on type of immersion microlens applied and package used for the detector. For detailed information please see Appendix – Technical Drawings.