

# **WORLD-BEAM** Universal Sensing Solutions



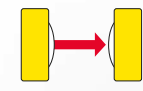
[www.bannerengineering.com/eu](http://www.bannerengineering.com/eu)



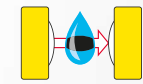
**BANNER**<sup>®</sup>  
more sensors, more solutions

## Q12 Miniature

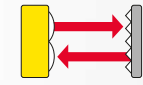
## QS18 Rectangular



OPPOSED



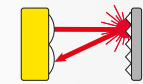
OPPOSED WATER  
DETECTION



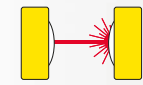
RETRO



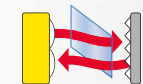
POLARISED  
RETRO



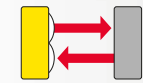
(POLARISED)  
RETRO LASER



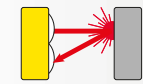
LASER  
EMITTER



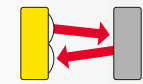
CLEAR OBJECT  
RETRO



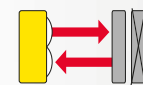
(DIVERGENT)  
DIFFUSE



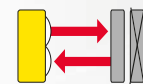
DIFFUSE  
LASER



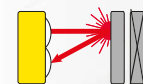
CONVERGENT



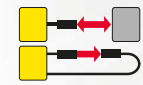
FIXED-FIELD



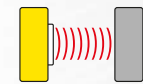
ADJUSTABLE-  
FIELD



LASER ADJUST-  
ABLE-FIELD



GLASS/PLASTIC  
FIBRE



ULTRASONIC



360°

Rugged housing with protected circuitry and integral sealing, robust metal-lined mounts and 360° visible status LEDs



Integral cable or pigtail with M8 or M12 connector



PFA-Jacketed models available

Ultra miniature sensor



Models with or without 18 mm threaded nose



Integral connector or cable



360°



Various models available: laser, ultrasonic, AC/DC



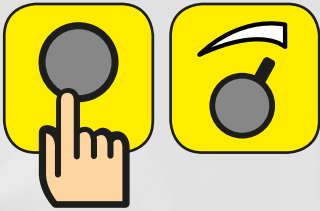
AC/DC models available



Laser models for long-range and pinpoint accuracy

# BEAM

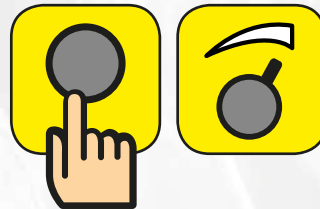
## QS30 Advanced



Models available with "click-to-teach" push button, potentiometer, or remote set only



Nose or side mount models with cable or integral connector  
Large high intensity LED on back side and 360° visible LEDs on top



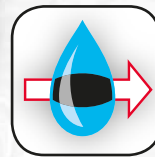
With or without potentiometer adjustment or push button teach



Big variety of mounting brackets for nose or side mount



Specialized models for reliable detection of water or liquids



## Q20 Compact



360°

Bright LED status indicators visible from 360°

Compact, rectangular housing with industry-standard mounting configuration; distance between holes 25,4 mm

Includes single-turn gain potentiometer for easy configuration, depending on model



Static or dynamic teach with adjustment, bargraph indicator and timing functions



Rugged, high powered models, sealed for extreme environments



IP69K models available



AC/DC models available



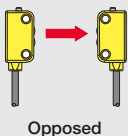
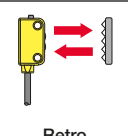
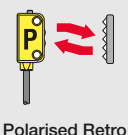
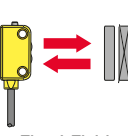
Laser models available

# Q12 Miniature Sensors



→ Visible red LED





## WORLD-BEAM Q12, 10-30 VDC, visible red LED

Sensing Mode	LO	DO	Range	Connection	Output
 Opposed	Q126E		2 m	2 m cable	Emitter
	Q126EQ			4-Pin M8 Pigtail QD	Emitter
	Q126EQ3			3-Pin M8 Pigtail QD	Emitter
	Q12AB6R	Q12RB6R		2 m cable	Bipolar PNP / NPN
	Q12AB6RQ	Q12RB6RQ		4-Pin M8 Pigtail QD	Bipolar PNP / NPN
	Q12AP6RQ3	Q12RP6RQ3		3-Pin M8 Pigtail QD	PNP
	Q12AN6RQ3	Q12RN6RQ3		3-Pin M8 Pigtail QD	NPN
 Retro	Q12AB6LV	Q12RB6LV	1,5 m with BRT-60X40C	2 m cable	Bipolar PNP / NPN
	Q12AB6LVQ	Q12RB6LVQ		4-Pin M8 Pigtail QD	Bipolar PNP / NPN
	Q12AP6LVQ3	Q12RP6LVQ3		3-Pin M8 Pigtail QD	PNP
	Q12AN6LVQ3	Q12RN6LVQ3		3-Pin M8 Pigtail QD	NPN
 Polarised Retro	Q12AB6LP	Q12RB6LP	1 m with BRT-60X40C	2 m cable	Bipolar PNP / NPN
	Q12AB6LPQ	Q12RB6LPQ		4-Pin M8 Pigtail QD	Bipolar PNP / NPN
	Q12AP6LPQ3	Q12RP6LPQ3		3-Pin M8 Pigtail QD	PNP
	Q12AN6LPQ3	Q12RN6LPQ3		3-Pin M8 Pigtail QD	NPN
 Fixed-Field	Q12AB6FF15	Q12RB6FF15	15 mm cutoff	2 m cable	Bipolar PNP / NPN
	Q12AB6FF15Q	Q12RB6FF15Q		4-Pin M8 Pigtail QD	Bipolar PNP / NPN
	Q12AP6FF15Q3	Q12RP6FF15Q3		3-Pin M8 Pigtail QD	PNP
	Q12AN6FF15Q3	Q12RN6FF15Q3		3-Pin M8 Pigtail QD	NPN
	Q12AB6FF30	Q12RB6FF30	30 mm cutoff	2 m cable	Bipolar PNP / NPN
	Q12AB6FF30Q	Q12RB6FF30Q		4-Pin M8 Pigtail QD	Bipolar PNP / NPN
	Q12AP6FF30Q3	Q12RP6FF30Q3		3-Pin M8 Pigtail QD	PNP
	Q12AN6FF30Q3	Q12RN6FF30Q3		3-Pin M8 Pigtail QD	NPN
	Q12AB6FF50	Q12RB6FF50	50 mm cutoff	2 m cable	Bipolar PNP / NPN
	Q12AB6FF50Q	Q12RB6FF50Q		4-Pin M8 Pigtail QD	Bipolar PNP / NPN
	Q12AP6FF50Q3	Q12RP6FF50Q3		3-Pin M8 Pigtail QD	PNP
	Q12AN6FF50Q3	Q12RN6FF50Q3		3-Pin M8 Pigtail QD	NPN


### PFA chemical-resistant models:

For sensors with a PFA chemical-resistant jacket (opposed and fixed-field), add suffix CR to the 2 m model number (example, Q12AB6FF15CR). PFA chemical-resistant models provide a range of 1,5 m in opposed mode and 12, 28 or 48 mm in fixed-field mode, depending on model.


### Connection Options: bipolar models only

-		2 m attached PVC cable (no suffix)
W/30		For 9 m attached PVC cable, add suffix W/30 to the 2 m model number
Q		For 150 mm 4-pin M8 pigtail with threaded quick-disconnect fitting, add suffix Q
Q5		For 150 mm 4-pin M12 pigtail with quick-disconnect fitting, add suffix Q5

### Connection Options: single output models only

Q3		For 150 mm 3-pin M8 pigtail with threaded quick-disconnect fitting, add suffix Q3 Compatible with I/O block
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### Connection Options: PFA chemical-resistant models

-		Sensors with PFA chemical-resistant jacket (suffix CR to the 2 m model number) have a 2 m attached cable encased in PFA tubing
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# Q20 Compact Sensors



→ Visible red LED

⇨ Infrared LED

## WORLD-BEAM Q20, 10-30 VDC, visible red LED and infrared LED

Sensing Mode	Model (PNP)		Range	Connection
 Opposed	Q20E	Emitter	12 m	2 m cable
	Q20EQ5	Emitter		4-Pin M12 Pigtail QD
	Q20PR			2 m cable
	Q20PRQ5			4-Pin M12 Pigtail QD
 Opposed	Q20EL	Emitter	20 m	2 m cable
	Q20ELQ5	Emitter		4-Pin M12 Pigtail QD
	Q20PRL			2 m cable
	Q20PRLQ5			4-Pin M12 Pigtail QD
 Retro	Q20PLV		6 m with BRT-84	2 m cable
	Q20PLVQ5			4-Pin M12 Pigtail QD
 Polarised Retro	Q20PLP		4 m with BRT-84	2 m cable
	Q20PLPQ5			4-Pin M12 Pigtail QD
 Diffuse	Q20PD		250 mm	2 m cable
	Q20PDQ5			4-Pin M12 Pigtail QD
	Q20PDL		800 mm	2 m cable
	Q20PDLQ5			4-Pin M12 Pigtail QD
 Diffuse	Q20PDXL		1500 mm	2 m cable
	Q20PDXLQ5			4-Pin M12 Pigtail QD
 Fixed-Field	Q20PFF50		0-50 mm cutoff	2 m cable
	Q20PFF50Q5			4-Pin M12 Pigtail QD
	Q20PFF100		0-100 mm cutoff	2 m cable
	Q20PFF100Q5			4-Pin M12 Pigtail QD
	Q20PFF150		0-150 mm cutoff	2 m cable
	Q20PFF150Q5			4-Pin M12 Pigtail QD

### NPN models:

For NPN models, replace P in model number by N (example, Q20NR).

### Health or alarm mode output:

Models with health or alarm mode output available, contact your local distributor for more information.

Connection Options		
-		2 m attached PVC cable (no suffix)
W/30		For 9 m attached PVC cable, add suffix W/30 to the 2 m model number
Q		For 150 mm 4-pin M8 pigtail with threaded quick-disconnect fitting, add suffix Q
Q5		For 150 mm 4-pin M12 pigtail with quick-disconnect fitting, add suffix Q5

Connection Options (continued)		
Q7		For 4-pin M8 integral quick-disconnect fitting, add suffix Q7

# QS18 Rectangular Sensors

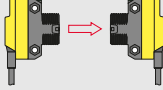
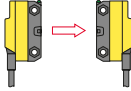
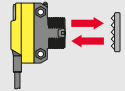
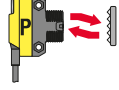
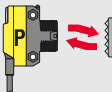

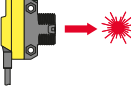

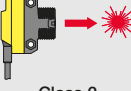

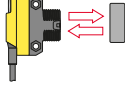
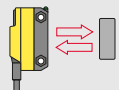
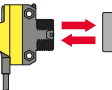

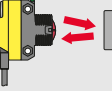


→ Visible red LED

→ Infrared LED

→ Visible red laser

**WORLD-BEAM QS18, 10-30 VDC, visible red LED, infrared LED and visible red laser**

Sensing Mode	Model (PNP)		Range	Connection
 Opposed	QS186E	Emitter	20 m	2 m cable
	QS186EQ8	Emitter		4-pin M12 QD
	QS18VP6R			2 m cable
	QS18VP6RQ8			4-pin M12 QD
 Opposed (no M18 mount)	QS186EB	Emitter	3 m	2 m cable
	QS186EBQ8	Emitter		4-pin M12 QD
	QS18VP6RB			2 m cable
	QS18VP6RBQ8			4-pin M12 QD
 Retro	QS18VP6LV		6,5 m with BRT-84	2 m cable
	QS18VP6LVQ8			4-pin M12 QD
 Polarised Retro	QS18VP6LP		3,5 m with BRT-84	2 m cable
	QS18VP6LPQ8			4-pin M12 QD
 Class 1 Laser Polarised Retro	QS18VP6LLP	Class 1	0,1-10 m with BRT-51X51BM	2 m cable
	QS18VP6LLPQ8			4-pin M12 QD
 Class 1 Laser Emitter	QS186LE	Class 1 Laser emitter	15 m (4500x excess gain) specified with QS18 receiver	2 m cable
	QS186LEQ8			4-pin M12 QD
 Class 2 Laser Emitter	QS186LE2	Class 2 Laser emitter	15 m (7000x excess gain) specified with QS18 receiver	2 m cable
	QS186LE2Q8			4-pin M12 QD
 Diffuse	QS18VP6D		450 mm	2 m cable
	QS18VP6DQ8			4-pin M12 QD
 (Divergent) Diffuse	QS18VP6DB	Diffuse	450 mm	2 m cable
	QS18VP6DBQ8	Diffuse		4-pin M12 QD
	QS18VP6W	Divergent	100 mm	2 m cable
	QS18VP6WQ8	Divergent		4-pin M12 QD
 Diffuse Class 1 Laser	QS18VP6LD	Class 1	300 mm	2 m cable
	QS18VP6LDQ8			4-pin M12 QD
 Convergent	QS18VP6CV15		16 mm	2 m cable
	QS18VP6CV15Q8			4-pin M12 QD
	QS18VP6CV45		43 mm	2 m cable
	QS18VP6CV45Q8			4-pin M12 QD

## NPN models:

For NPN models, replace P in model number by N (example, QS18VN6R).

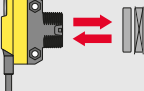
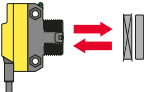
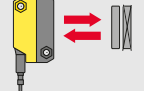
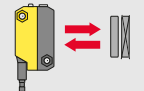

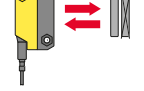

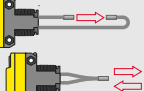
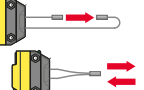
# QS18 Rectangular Sensors



 Visible red LED

 Visible red laser

## WORLD-BEAM QS18, 10-30 VDC, visible red LED and visible red laser

Sensing Mode	Model (PNP)		Range	Connection
 Fixed-field	QS18VP6FF50		0-50 mm cutoff	2 m cable
	QS18VP6FF50Q8			4-pin M12 QD
	QS18VP6FF100		0-100 mm cutoff	2 m cable
	QS18VP6FF100Q8			4-pin M12 QD
Sensing Mode	Model (PNP)	Model (Bipolar)	Range	Connection
 Adjustable-field foreground suppression	QS18VP6AFF200	QS18AB6AFF200	Adjustable between 30-200 mm	2 m cable
	QS18VP6AFF200Q5	QS18AB6AFF200Q5		4-pin M12 Pigtail QD
	QS18VP6AFF40	QS18AB6AFF40	Adjustable between 15-40 mm	2 m cable
	QS18VP6AFF40Q5	QS18AB6AFF40Q5		4-pin M12 Pigtail QD
 Adjustable-field background suppression	QS18VP6AF300	QS18AB6AF300	Adjustable between 30-300 mm	2 m cable
	QS18VP6AF300Q5	QS18AB6AF300Q5		4-pin M12 Pigtail QD
	QS18VP6AF40	QS18AB6AF40	Adjustable between 15-40 mm	2 m cable
	QS18VP6AF40Q5	QS18AB6AF40Q5		4-pin M12 Pigtail QD
	QS18VP6AF100		1 mm to cutoff point (adjustable between 20-100 mm)	2 m cable
	QS18VP6AF100Q5			4-pin M12 Pigtail QD
Sensing Mode	Model (PNP)		Range	Connection
 Laser Adjustable-field background suppression	QS18VP6LAF	Class 1 	1 mm to cutoff point (adjustable between 30-150 mm)	2 m cable
	QS18VP6LAFQ5			4-pin M12 Pigtail QD
 Laser Adjustable-field background suppression	QS18VP6LAF250	Class 2 	20 mm to cutoff point (adjustable between 50-250 mm)	2 m cable
	QS18VP6LAF250Q5			4-pin M12 Pigtail QD
 Glass Fibre	QS18VP6F		Range varies by sensing mode and fibre optics used	2 m cable
	QS18VP6FQ8			4-pin M12 QD
 Plastic Fibre	QS18VP6FP		Range varies by sensing mode and fibre optics used	2 m cable
	QS18VP6FPQ8			4-pin M12 QD


### NPN models:

For NPN models, replace P in model number by N (example, QS18VN6FF50).

### Bipolar PNP/NPN output models:

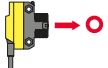
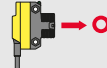
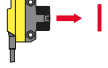

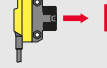





For bipolar PNP/NPN output model options, contact your local distributor for more information.

# QS18 Laser Pointers



 Visible red laser



WORLD-BEAM QS18, 10-30 VDC, visible red laser

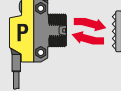
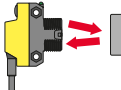
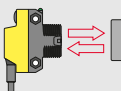
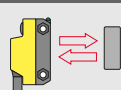
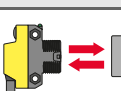
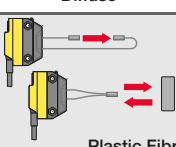
Sensing Mode	Model	Connection	Sensing Mode	Model	Connection		
 Laser Pointer	QS186LE10	2 m cable	 Laser Pointer	QS186LE210	2 m cable		
	QS186LE10Q8	4-pin M12 QD		QS186LE210Q8	4-pin M12 QD		
 Laser Pointer	 Class 1	QS186LE11	2 m cable	 Laser Pointer	 Class 2	QS186LE211	2 m cable
		QS186LE11Q8	4-pin M12 QD			QS186LE211Q8	4-pin M12 QD
 Laser Pointer	QS186LE12	2 m cable	 Laser Pointer	QS186LE212	2 m cable		
	QS186LE12Q8	4-pin M12 QD		QS186LE212Q8	4-pin M12 QD		
 Laser Pointer	QS186LE14	2 m cable	 Laser Pointer	QS186LE214	2 m cable		
	QS186LE14Q8	4-pin M12 QD		QS186LE214Q8	4-pin M12 QD		

# QS18 Expert Sensors

 Visible red LED  
 Infrared LED



WORLD-BEAM QS18 Expert, 10-30 VDC, visible red LED and infrared LED

Sensing Mode	Model (PNP)	Range	Connection
 Polarised Retro	QS18EP6LP	3,5 m with BRT-84	2 m cable
	QS18EP6LPQ8		4-pin M12 QD
 Convergent	QS18EP6CV15	16 mm	2 m cable
	QS18EP6CV15Q8		4-pin M12 QD
	QS18EP6CV45	43 mm	2 m cable
	QS18EP6CV45Q8		4-pin M12 QD
 Diffuse	QS18EP6D	800 mm	2 m cable
	QS18EP6DQ8		4-pin M12 QD
 Diffuse	QS18EP6DB	500 mm	2 m cable
	QS18EP6DBQ8		4-pin M12 QD
 Divergent Diffuse	QS18EP6W	300 mm	2 m cable
	QS18EP6WQ8		4-pin M12 QD
 Diffuse	QS18EP6DV	600 mm	2 m cable
	QS18EP6DVQ8		4-pin M12 QD
 Plastic Fibre	QS18EP6FP	Range varies by sensing mode and fibre optics used	2 m cable
	QS18EP6FPQ8		4-pin M12 QD

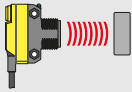
**NPN models:**

For NPN models, replace P in model number by N (example, QS18EN6LP).




# QS18 Ultrasonic Sensors





## WORLD-BEAM QS18 Ultrasonic, 12-30 VDC



Sensing Mode	Model (PNP)	Range	TEACH Options	Construction	Connection
 Ultrasonic	QS18UPA	50-500 mm	Integral push button and remote TEACH	IP67	2 m cable
	QS18UPAQ8				4-pin M12 QD
	QS18UPAE		Remote TEACH	Epoxy-encapsulated IP68	2 m cable
	QS18UPAEQ8				4-pin M12 QD

## WORLD-BEAM QS18 Ultrasonic Wave Guide



Model	Style	Size	Description
	UWG18-5.0	Barrel	Wave guide attaches to 18 mm threaded barrel to focus ultrasonic sensing beam
	UWG18-6.4		



### Connection Options (except adjustable-field)

-	 2 m	2 m attached PVC cable (no suffix)
W/30	 9 m	For 9 m attached PVC cable, add suffix W/30 to the 2 m model number
Q	 M8	For 150 mm 4-pin M8 pigtail with threaded quick-disconnect fitting, add suffix Q
Q5	 M12	For 150 mm 4-pin M12 pigtail with quick-disconnect fitting, add suffix Q5

Q7	 M8	For 4-pin M8 integral quick-disconnect fitting, add suffix Q7
Q8	 M12	For 4-pin M12 integral quick-disconnect fitting, add suffix Q8

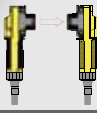
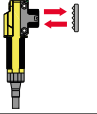
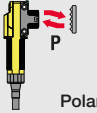
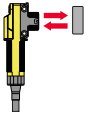
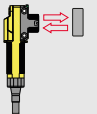
### Connection Options: adjustable-field only

Q	 M8	For 150 mm 4-pin M8 pigtail with threaded quick-disconnect fitting, add suffix Q
Q5	 M12	For 150 mm 4-pin M12 pigtail with quick-disconnect fitting, add suffix Q5

-  Visible red LED
-  Infrared LED

# QS18 AC/DC Voltage

## WORLD-BEAM QS18, 20-140 VAC/DC or 20-270 VAC/DC, visible red LED and infrared LED

Sensing Mode	LO	DO	Range	Connection	MOSFET Output
 Opposed	QS18WE		20 m	2 m cable	Emitter
	QS18APWR	QS18RPWR			P-MOSFET (Sourcing)
	QS18ANWR	QS18RNWR			N-MOSFET (Sinking)
 Retro	QS18APWLV	QS18RPWLV	6,5 m with BRT-84	2 m cable	P-MOSFET (Sourcing)
	QS18ANWLV	QS18RNWLV			N-MOSFET (Sinking)
 Polarised Retro	QS18APWLP	QS18RPWLP	3,5 m with BRT-84	2 m cable	P-MOSFET (Sourcing)
	QS18ANWLP	QS18RNWLP			N-MOSFET (Sinking)
 Diffuse	QS18APWDL	QS18RPWDL	450 mm	2 m cable	P-MOSFET (Sourcing)
	QS18ANWDL	QS18RNWDL			N-MOSFET (Sinking)
 Diffuse	QS18APWDXL	QS18RPWDXL	1 m	2 m cable	P-MOSFET (Sourcing)
	QS18ANWDXL	QS18RNWDXL			N-MOSFET (Sinking)

### QD models:

For 4-pin 150 mm Micro-style pigtail QD, add suffix Q2 to the model number (example, QS18WEQ2).

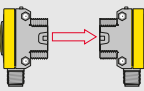
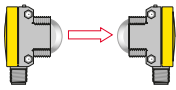
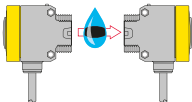
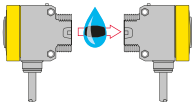
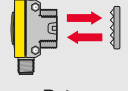
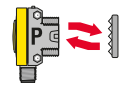
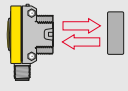
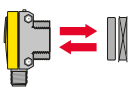
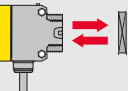
# QS30 Advanced Sensors



→ Visible red LED

→ Infrared LED

## WORLD-BEAM QS30, 10-30 VDC, visible red LED and infrared LED

Sensing Mode	Model	Range	Connection	Output	
 Opposed	QS30E	60 m	2 m cable	Emitter	
	QS30EQ		5-pin M12 QD		
	QS30R		2 m cable	Bipolar PNP/NPN	
	QS30RQ		5-pin M12 QD		
 High-Powered Opposed	QS30EX	213 m	2 m cable	Emitter	
	QS30EXQ		5-pin M12 QD		
	QS30ARX		2 m cable	Bipolar PNP/NPN	LO
	QS30ARXQ		5-pin M12 QD		
	QS30RRX		2 m cable	Bipolar PNP/NPN	DO
	QS30RRXQ		5-pin M12 QD		
 Opposed Water Detection	QS30EXH2O	(Emitter)	2 m cable	Emitter	
	QS30EXH2OQ5		5-pin M12 Pigtail QD		
	QS30ARH2O	2 m	2 m cable	Bipolar PNP/NPN	LO
	QS30ARH2OQ5		5-pin M12 Pigtail QD		
	QS30RRH2O		2 m cable	Bipolar PNP/NPN	DO
	QS30RRH2OQ5		5-pin M12 Pigtail QD		
	QS30ARXH2O	4 m high-power	2 m cable	Bipolar PNP/NPN	LO
	QS30ARXH2OQ5		5-pin M12 Pigtail QD		
	QS30RRXH2O		2 m cable	Bipolar PNP/NPN	DO
	QS30RRXH2OQ5		5-pin M12 Pigtail QD		
 Super High-Power Opposed Water Detection	QS30EXSH2O	8 m super high-power	2 m cable	Emitter	
	QS30EXSH2OQ5		5-pin M12 Pigtail QD		
	QS30ARXSH2O		2 m cable	Bipolar PNP/NPN	LO
	QS30ARXSH2OQ5		5-pin M12 Pigtail QD		
	QS30RRXSH2O		2 m cable	Bipolar PNP/NPN	DO
	QS30RRXSH2OQ5		5-pin M12 Pigtail QD		
 Retro	QS30LV	12 m with BRT-84	2 m cable	Bipolar PNP/NPN	
	QS30LVQ		5-pin M12 QD		
 Polarised Retro	QS30LP	8 m with BRT-84	2 m cable	Bipolar PNP/NPN	
	QS30LPQ		5-pin M12 QD		
 Diffuse	QS30D	1 m	2 m cable	Bipolar PNP/NPN	
	QS30DQ		5-pin M12 QD		
 Adjustable-field background suppression	QS30AF600	Adjustable between 50-600 mm	2 m cable	Bipolar PNP/NPN	
	QS30AF600Q		5-pin M12 QD		
 Adjustable-field foreground suppression	QS30AFF400	Adjustable between 50-400 mm	2 m cable	Bipolar PNP/NPN	
	QS30AFF400Q		5-pin M12 QD		

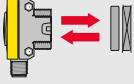
For all QS30 models: for 9 m attached PVC cable, add suffix W/30 to the 2 m model number (example, QS30E W/30).

# QS30 Advanced Sensors



→ Visible red LED

## WORLD-BEAM QS30, 10-30 VDC, visible red LED

Sensing Mode	Model	Range	Connection	Output
 Fixed-Field	QS30FF200	200 mm cutoff	2 m cable	Bipolar PNP/NPN
	QS30FF200Q		5-pin M12 QD	
	QS30FF400	400 mm cutoff	2 m cable	
	QS30FF400Q		5-pin M12 QD	
	QS30FF600	600 mm cutoff	2 m cable	
	QS30FF600Q		5-pin M12 QD	

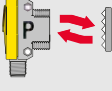

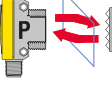
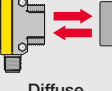
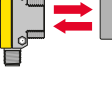



→ Visible red LED

→ Visible red laser

# QS30 Expert Sensors

## WORLD-BEAM QS30 Expert, 10-30 VDC, visible red LED and visible red laser

Sensing Mode	Model	Range	Connection
 Laser Polarised Retro	QS30LLP	Class 1  0,2-18 m with BRT-36X40BM	2 m cable
	QS30LLPQ		5-pin M12 QD
	QS30LLPC		2 m cable
	QS30LLPCQ		5-pin M12 QD
 Clear Object Retro	QS30ELVC	100 mm to 2 m	2 m cable
	QS30ELVCQ		5-pin M12 QD
 Diffuse	QS30EDV	High-Speed: 1100 mm Normal: 1400 mm	2 m cable
	QS30EDVQ		5-pin M12 QD
 Diffuse Laser	QS30LD	Class 1  400 mm	2 m cable
	QS30LDQ		5-pin M12 QD
	QS30LDL	Class 2 800 mm	2 m cable
	QS30LDLQ		5-pin M12 QD

BRT-TVHG-2X2 and BRT-36X40BM reflectors are included with laser polarised retro models.  
 BRT-2X2LVC and BRT40X19A reflectors are included with clear object retro models.

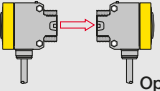
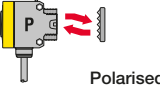
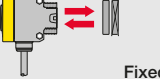


→ Visible red LED























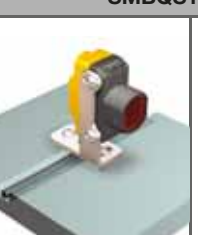





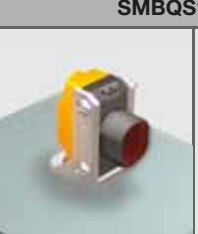









⇒ Infrared LED





# QS30 AC/DC Voltage

## WORLD-BEAM QS30, 12-250 VDC or 24-250 VAC, visible red LED and infrared LED

Sensing Mode	Model	Range	Connection	Output
 Opposed	QS303E	60 m	2 m cable	Emitter
	QS30VR3R		2 m cable	SPDT electromechanical Relay
 Polarised Retro	QS30VR3LP	8 m with BRT-84	2 m cable	SPDT electromechanical Relay
 Fixed-Field	QS30VR3FF200	200 mm cutoff	2 m cable	SPDT electromechanical Relay
	QS30VR3FF400	400 mm cutoff	2 m cable	
	QS30VR3FF600	600 mm cutoff	2 m cable	

# QS18 & Q12 Mounting Brackets

QS18 Brackets							
SMB18A		SMB18AFA		SMBAMS18P		SMBAMS18RA	
							
SMB18ATFA		SMB18FAM10		SMBQS18A		SMBQS18AF	
			 M10				
SMB18FM		SMB18Q		SMBQS18DIN		SMBQS18RA	
							
SMB18SF		SMB18UR		SMBQS18Y		SMBQS18YL	
							
SMB312S		SMB4050YL		SMH241F			
							

Q12 Brackets			
SMBQ12A		SMBQ12T	
			

# QS30 & Q20 Mounting Brackets

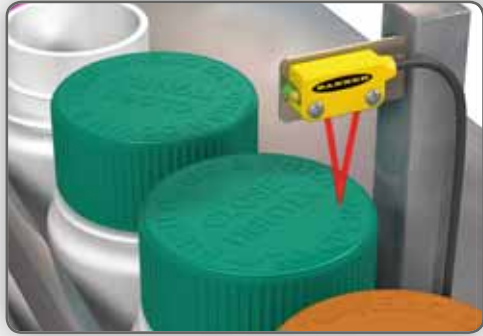


QS30 Brackets					
SMB30A		SMB30FA		SMB30RAVK	
SMB30MM		SMB30Q		SMBAMS30P shown with SMBAMSBRA	
SMB30SC		SMBAMS30P		SMBAMS30RA shown with SMBAMSBRA	
SMBAMS30RA		SMBQS30L			
SMBQS30Y		SMBQS30YL			

Q20 Brackets							
SMBQ20H		SMBQ20L		SMBQ20LV		SMBQ20U	

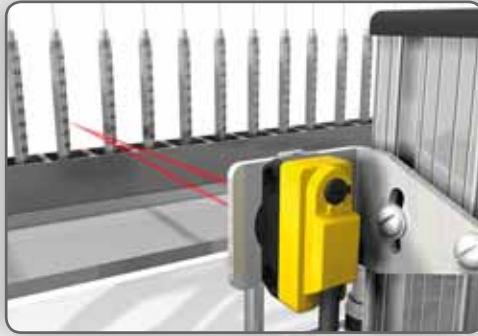
# Applications by Industry

## Pharmaceutical & Medical



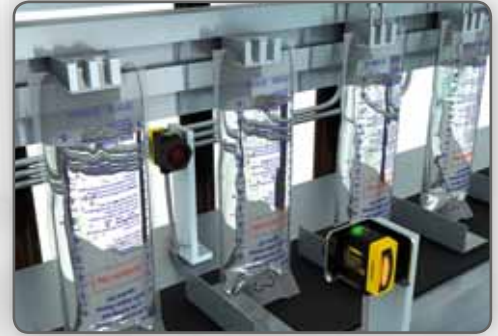
### Cap Detection On Medicine Bottles

As plastic bottles pass below the Q12 sensor, the fixed-field beam identifies bottles without caps and rejects them from the line.



### Syringe Counting

As syringes pass on a conveyor, a QS18 with background suppression detects the individual barrels, passing the information to a counting device.



### Bag Liquid Detection

In applications where clear objects contain clear liquid, the QS30 Water Sensor's specific wavelength is absorbed by the liquid and it's presence is reliably detected.

## Food & Beverage



### Bottle Cap Inspection

The Q12 sensor, operating in fixed-field mode, detects missing or misaligned caps, regardless of colour, and triggers the line to reject uncapped bottles.



### Tinted Bottle Detection

The QS18U ultrasonic sensor reliably detects each bottle passing on a high-speed conveyor, despite the bottles' reflective surface.



### Juice Carton Detection

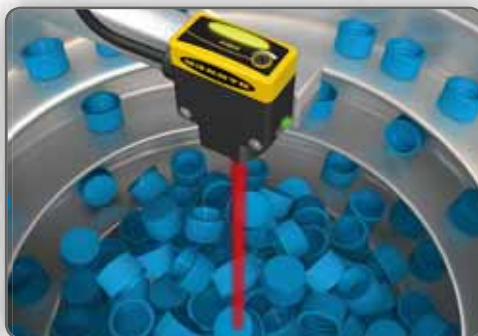
As cartons of juice pass on a conveyor, the QS30 sensor in fixed-field mode detects the presence or absence of a carton, regardless of colour and pattern.

## Packaging



### Tube Filling

The QS18 in fixed-field mode detects the presence or absence of plastic tubes before the filling process.



### Parts Detection in Feeder Bowl

The QS30AF monitors the supply level of the caps as they move out of the bowl. If the caps are not present, an output is triggered to restock the feeder bowl.



### Clear Bottle Counting

The QS30 Clear Object Sensor has been created specifically to reliably detect and count clear objects. The optical design controls how the emitted light strikes the reflector.

# Applications by Industry



## Material Handling



### Unfinished Can Detection

Q20 polarized retroreflective mode sensors use polarizing filters to detect only the light returned from the reflector, ignoring light returned from shiny objects.



### Load Station Pallet Detection

The Q20 diffuse sensor is positioned to detect the presence of a pallet. Once the pallet is in place, an output signals the robot to begin loading.



### Retrofitting for Pallet Detection

QS18 AC/DC sensors mounted along a conveyor detect the presence and position of passing pallets.

## Car Wash & Automotive



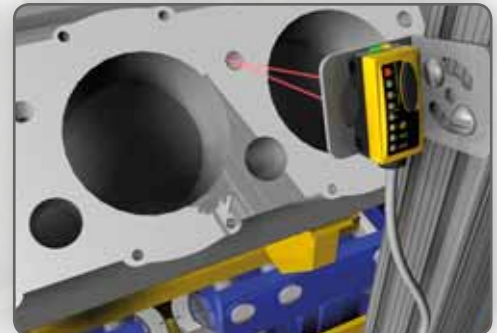
### Liquid Soap Level Detection

The QS18U ultrasonic sensor monitors the level of soap in a tank in a car wash. The sound waves bounce off the surface of the liquid.



### Vehicle Position in Car Wash

A QS30EXQ emitter and QS30RRXQ receiver are configured in opposed mode to verify that the vehicle has passed completely through the drying stage of the car wash.



### Thread Hole Detection

From a distance of up to 800 mm, the QS30's narrow laser beam verifies whether a hole in the manifold is threaded.

## Parts Processing



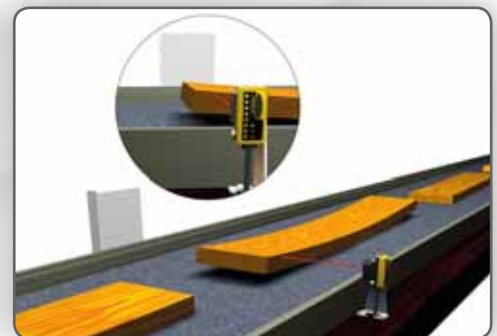
### Counting Reflective Rings

The Q12 in retroreflective mode detects shiny metal rings as they pass on a conveyor and then sends the data to a counting device.



### Part-in-Place Verification

A QS18 adjustable field with background suppression verifies parts prior to leaving a load station to ensure assembly quality and production efficiency.



### Board Warp Detection

As boards pass on a conveyor, the high-sensitivity QS30 laser detects boards that are higher than flat ones due to warping.



### Sensors

- Presence/Absence Detection
- Foreground & Background Suppression
- GO/NO GO Inspection
- Gating and Triggering
- Parts Counting
- Level and Distance Measurement
- Positioning
- Contrast and Colour Sensing



### Vision

- Vision Sensors with Onboard User Interface
- Pattern Recognition
- Traceability (Barcode, Datamatrix and Text Reading)
- OCR/OCV
- Complex Part Inspection
- Part Orientation
- Assembly Verification
- Colour Inspections



### Wireless I/O

- Slip Ring Replacement
- Tank Farm Monitoring
- Livestock Environmental Monitoring
- Water and Wastewater Treatment
- HVAC Remote Monitoring
- Traffic Monitoring & Control
- Remote Sensing in Process Automation
- Cable Replacement
- ATEX Approved Solutions



### Lighting & Indicators

- Bin & Part Picking
- Error/Mistake Proofing
- Pick-to-Light & Put-to-Light
- Operator Guidance
- Call for Parts
- Incorrect Pick Signal
- Remote Start/Stop Indication
- Work lights and cabinet lighting



### Machine Safety

- Safety Light Screens
- Optical Non-Contact Safety Systems
- Ergonomic Two-hand Control Devices
- Safety Modules
- Emergency Stop Devices
- Safety Interlocking
- Laser Scanners for Safety Applications

## Banner Engineering's Worldwide Presence



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