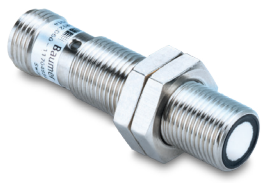
Ultrasonic sensors

02.2023/ Version 1.0
11722622

UR12

EN DE FR IT ES CN



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Baumer

Baumer Electric AG - CH-8501 Frauenfeld
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Models with IO-Link

IO-Link Process Data Input									
32					8				0
IntegerT(32)					IntegerT(8)	8 bit			
Measurement Data Channel (MDC)					Scale	Baumer specific			
						7	6	5	4	3	2	1	0
								SSC4		Alarm	Quality	SSC2	SSC1

SSC1/2/4: Switching Signal Channels
MDC: Distance Value or Switch Counter (selectable)
Quality: The quality bit signals a weak echo signal
Alarm: The alarm bit signals a problem with the configuration or the functionality of the sensor
Scale: Factor by power of ten, applicable to the value of the Measurement Data Channel (MDC)

Available Commands:
Teach-in commands, sensor element on/off, Find Me (Locating sensor) and more

Available Parameters:
Switching point, switching hysteresis, output function, time fi lters, beam forming, measured value fi ltering, analog output characteristic, function of Pin 5, LED status indicators and more

Available Additional Data:
Switch counter, boot cycles, operation hours, device temperature, operating voltage, histograms

Mounting Instructions

Mindestabstand zwischen zwei Sensoren

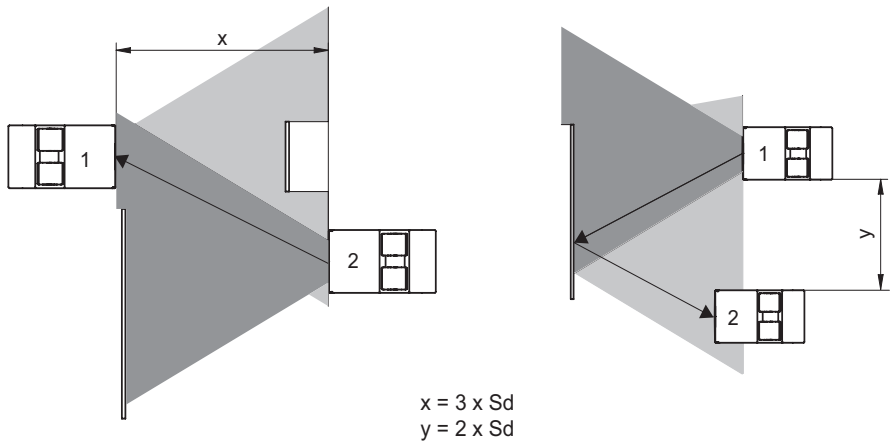
Minimal distance between two sensors

Distance minimale entre deux capteurs

Distanza minima tra due sensori

Distancia mínima entre dos sensores

传感器之间最小安装距离



x = 3 x Sd
y = 2 x Sd

Related Models

UR12 Models:
UR12.D (Analog output)
UR12.P (1-Point switch output)
UR12.P (2-Point switch output)
UR12.D (Analog output retro fit version)

More Information related to these products can be found on our website
(CAD, Beamcharts, CoC, Drawings, IODDs …)

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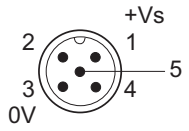
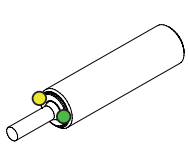
Connection Diagrams



	1-Point switch	2-Point switch	Analog measurement out	Analog measurement out
	.P	.P	.D	.D (retro)
1 - Brown BN	+Vs			
2 - White WH	n.c.	Push-Pull out 2	U or I / Teach-In	Push-Pull
3 - Blue BU	0 V			
4 - Black BK	IO-Link / Push-Pull out 1			U or I
5 - Gray GY	Teach-in / Sync / Mux selectable via IO-Link			Teach-in

- Disconnect power before connecting the sensor.
- Voltage supply according UL 1310, Class 2
or device shall be protected by an external R/C or listed fuse, rated max.
30 VAC/3A or 24 VDC/4A

LED Indication



Legend

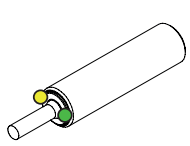
- LED on
- 1 LED flashing 1 Hz
- 2 LED flashing 2 Hz
- 8 LED flashing 8 Hz

Operating Mode

EN

LED Indicators	Green	Yellow
Power on	●	
Short circuit	1	
Output 1 active		●
Output 1 signal close to threshold		8
Output 2 active		
Output 2 signal close to threshold		
Teach-in mode	see Teach-in Instruction	

LED Anzeige



Legende

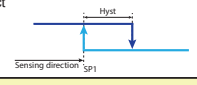
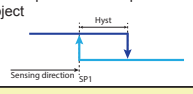
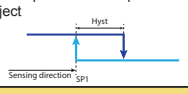
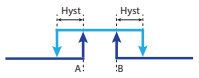
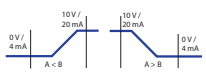
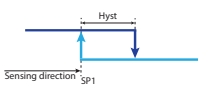
- LED leuchtet
- 1 LED blinkt 1 Hz
- 2 LED blinkt 2 Hz
- 8 LED blinkt 8 Hz

Betriebsmodus

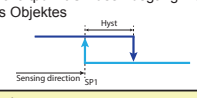
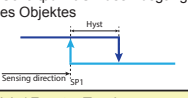
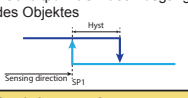
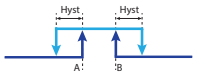
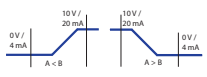
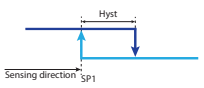
DE

LED Indikatoren	Grün	Gelb
Betriebsanzeige	●	
Kurzschluss	1	
Ausgang 1 aktiv		●
Ausgang 1 Signal nahe der Schwelle		8
Ausgang 2 aktiv		
Ausgang 2 Signal nahe der Schwelle		
Teach-in Modus	siehe Teach-in Anweisung	

Teach-In Description Level 1 & 2

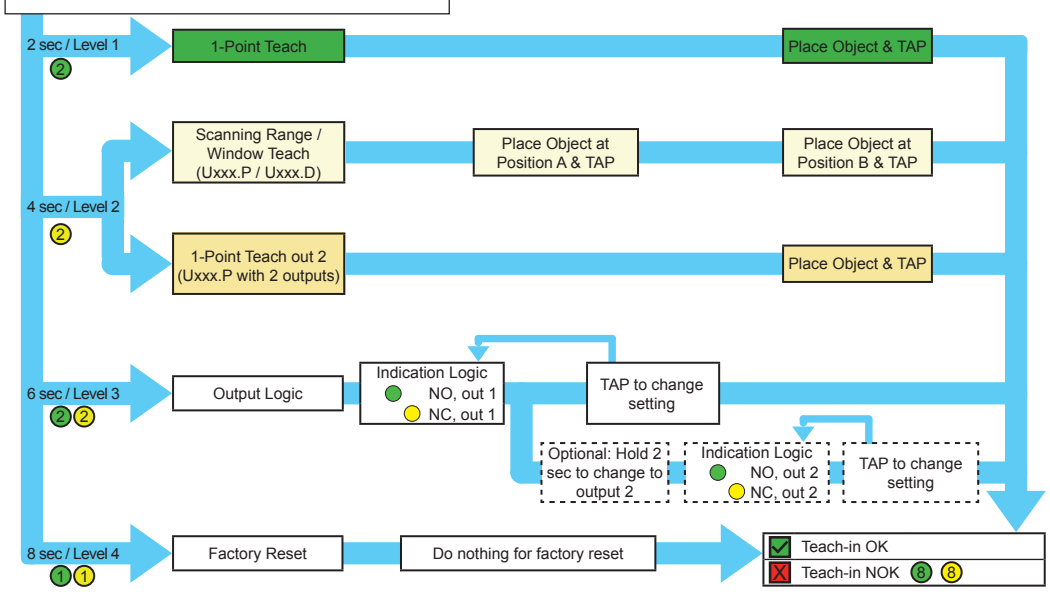
	UR12.P with 1 output	UR12.D	UR12.P with 2 outputs
Level 1	1-Point Teach Output 1	1-Point Teach Output 1	1-Point Teach Output 1
	Set the switchpoint SP of output 1 at the position of the object 	Set the switchpoint SP of output 1 at the position of the object 	Set the switchpoint SP of output 1 at the position of the object 
Level 2	Window Teach	Scanning Range / Window Teach	1-point Teach Output 2
	set a window in which an object should be detected 	Set the scanning range related to the analogue value. Output 1 is active if an object is within the scanning range 	Set the switchpoint of output 2 at the position of the object 

Teach-In Beschreibung Level 1 & 2

	UR12.P mit 1 Ausgang	UR12.D	UR12.P mit 2 Ausgängen
Level 1	1-Punkt Teach Ausgang 1	1-Punkt Teach Ausgang 1	1-Punkt Teach Ausgang 1
	Setzt den Schaltpunkt SP des Ausgang 1 an der Position des Objektes 	Setzt den Schaltpunkt SP des Ausgang 1 an der Position des Objektes 	Setzt den Schaltpunkt SP des Ausgang 1 an der Position des Objektes 
Level 2	Fenster Teach	Messbereich / Fenster Teach	1-Punkt Teach Ausgang 2
	Definiert ein Schaltfenster, innerhalb welches ein Objekt erkannt werden soll 	Definiert den mit dem analogen Ausgang verknüpften Messbereich. Ausgang 1 ist aktiv, wenn sich ein Objekt innerhalb des Messbereichs befindet 	Setzt den Schaltpunkt SP des Ausgang 2 an der Position des Objektes 

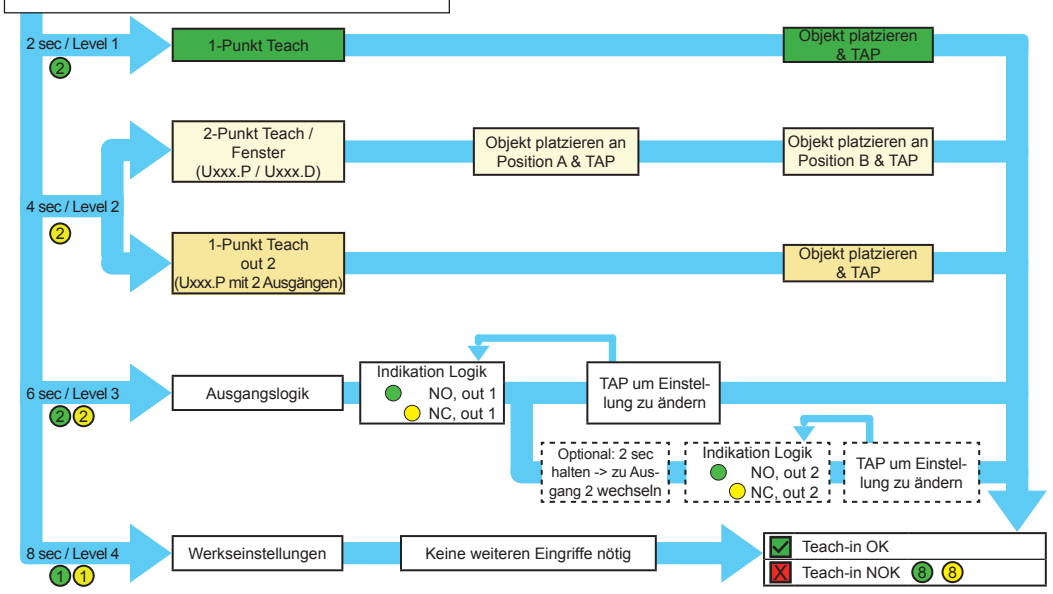
Teach-in Instruction

General Information
- External teach-in is always possible (no locking).
- In teach mode the output changes to 0 V.
- During operation the teach wire should be connected to 0V.
- For external teach-in, connect teach wire to +Vs.

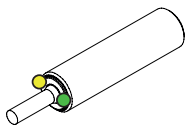


Teach-in Anleitung

Allgemeine Information
- Externes Teach-in ist immer möglich (keine Verriegelung)
- Im Teachmodus wechselt der Ausgang auf 0 V.
- Im Normalbetrieb muss die Teachleitung auf 0 V gelegt werden.
- Für externes Teach-in, Teachleitung entsprechend mit Vs+ verbinden.



Indication LED



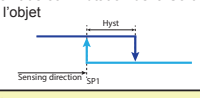
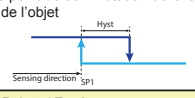
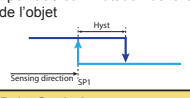
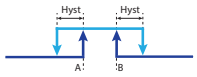
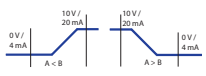
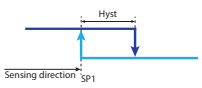
Légende

- LED ON
- 1 LED clignotante 1 Hz
- 2 LED clignotante 2 Hz
- 8 LED clignotante 8 Hz

Mode de fonctionnement (FR)

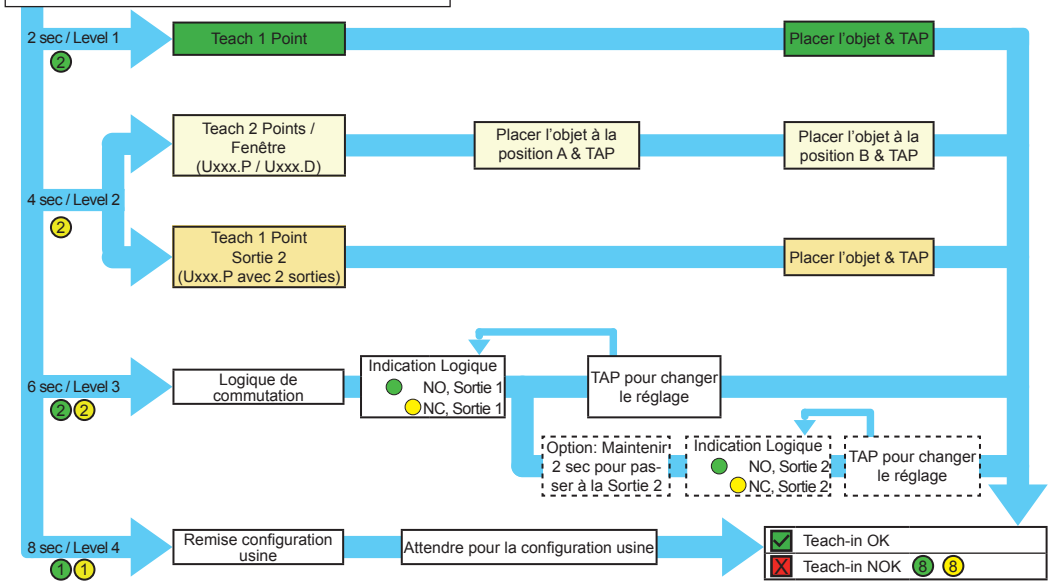
Indicateurs LED	Vert	Jaune
Power On	●	
Court-circuit	1	
Sortie 1 activée		●
Sortie 1 signal proche du seuil		8
Sortie 2 activée		
Sortie 2 signal proche du seuil		
Mode Teach-In	Voir Instructions Teach-In	

Description Teach-In Niveau 1 & 2

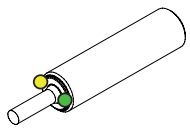
	UF200.P avec 1 Sortie	UF200.D	UF200.P avec 2 Sortie
Niveau 1	Sortie 1: Teach 1 Point	Sortie 1: Teach 1 Point	Sortie 1: Teach 1 Point
	Régler le point de commutation de la Sortie 1 à la position de l'objet 	Régler le point de commutation de la Sortie 1 à la position de l'objet 	Régler le point de commutation de la Sortie 1 à la position de l'objet 
Niveau 2	Teach fenêtre	Teach 2 Points / Fenêtre	Teach 1 Point Sortie 2
	Régler une fenêtre dans laquelle un objet doit être détecté 	Régler la zone de mesure correspondante à la sortie analogique. La Sortie 1 est active si l'objet est dans la zone définie. 	Régler le point de commutation de la Sortie 2 à la position de l'objet 

Instructions Teach-In

Information Générale
- Le Teach externe est toujours disponible (Pas de verrouillage)
- En mode Teach la sortie est à 0 V
- En mode normal l'entrée Teach est à 0 V
- Pour un Teach externe, connecteur l'entrée Teach correspondant au + Vs



Indicazioni LED



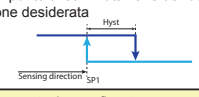
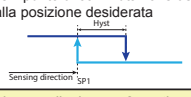
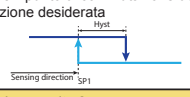
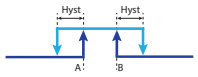
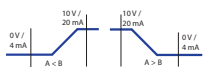
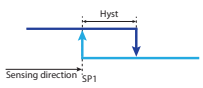
Legenda

- LED on
- 1 Lampeggiamento LED a 1 Hz
- 2 Lampeggiamento LED a 2 Hz
- 8 Lampeggiamento LED a 8 Hz

Modalità operativa (IT)

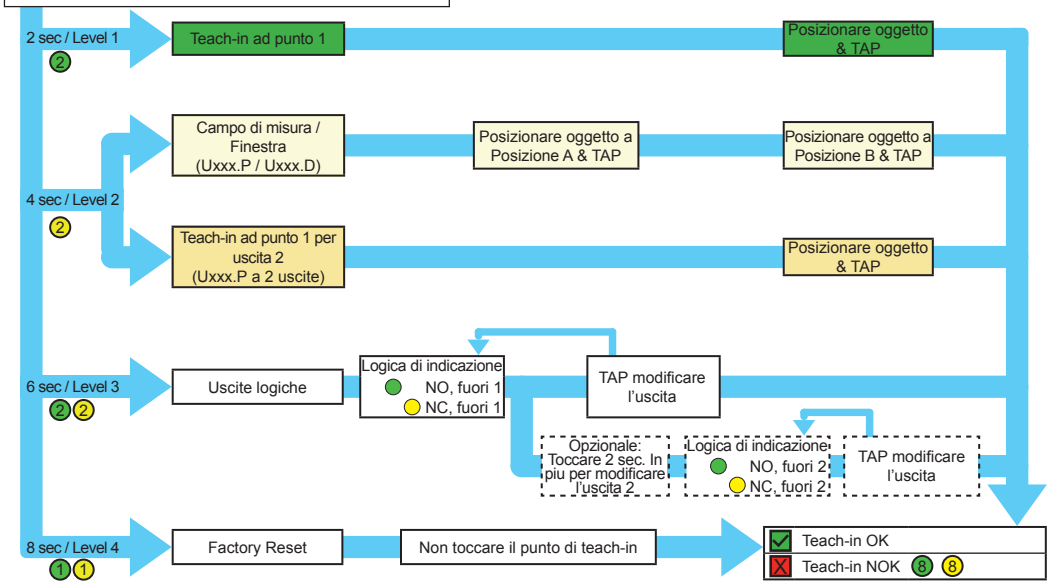
Indicazioni LED	Verde	Giallo
Power On	●	
Corto circuito	1	
Uscita 1 attiva		●
Uscita 1 prossima alla soglia		8
Uscita 2 attiva		
Uscita 2 prossima alla soglia		
Modalità di Teach-In	see Teach-In Instruction	

Descrizione livelli di Teach-in 1 e 2

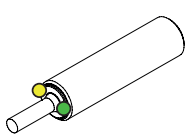
	UR12.P con 1 uscita	UR12.D	UR12.P con 2 uscite
Livello 1	Uscita digitale – teach ad 1 punto	Uscita digitale – teach ad 1 punto	Impostazione uscita 1
	Impostare il punto di commutazione dell'uscita 1 alla posizione desiderata 	Impostare il punto di commutazione dell'uscita digitale alla posizione desiderata 	Impostare il punto di commutazione dell'uscita 1 alla posizione desiderata 
Livello 2	Soglia di commutazione a finestra	Teach del range di misura a 2 punti	Impostazione uscita 2
	Impostare una soglia di commutazione a finestra all'interno della quale rilevare l'oggetto 	Impostare il range di misura relativo all'uscita analogica. Se l'uscita digitale non viene impostata nel livello 1 rimane sempre attiva all'interno del range di misura. 	Impostare il punto di commutazione dell'uscita 2 alla posizione desiderata 

Instrucciones Teach-In

Informazione generali
- Il teach-in da remoto è sempre possibile (non si disattiva dopo 5 min).
- Durante il teach l'output assume un valore pari a 0V.
- Durante il funzionamento standard del sensore il cavo del teach-in remoto è a 0V.
- Per il teach-in da remoto, connettere il cavo di teach a +Vs.



Información LED



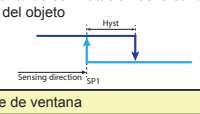
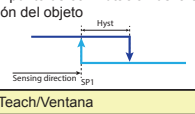
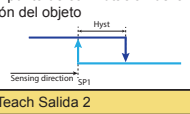
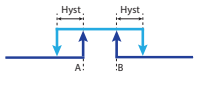
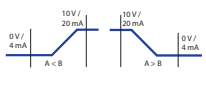
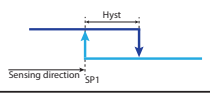
Leyenda

- LED ON
- 1 LED parpadeo 1 Hz
- 2 LED parpadeo 2 Hz
- 8 LED parpadeo 8 Hz

Operating Mode (ES)

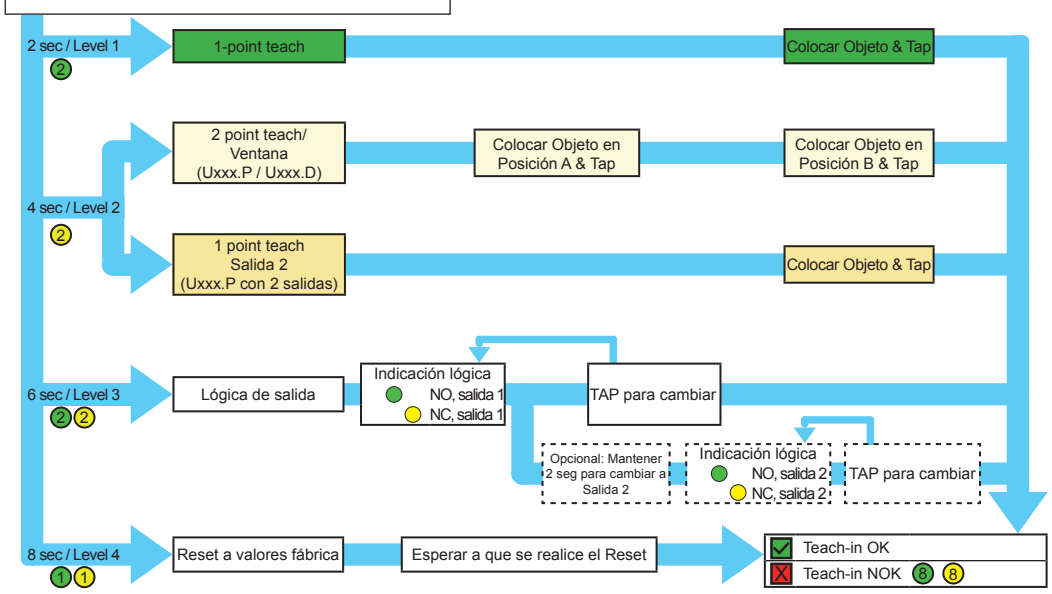
LED Indicators	green	yellow
Power On	●	
Cortocircuito	1	
Salida 1 activa		●
Salida 1 señal dentro del intervalo		8
Salida 2 activa		
Salida 2 señal dentro del intervalo		
Modo Teach-In	Ver instrucciones Teach-In	

Descripción Teach-In Nivel 1 & 2

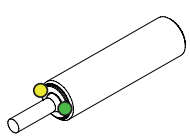
	UR12.P con 1 salida	UR12.D	UR12.P con 2 salida
Nivel 1	1 punto de enseñanza de salida 1	1 punto de enseñanza de salida 1	1 punto de enseñanza de salida 1
	Definir el punto de conmutación de la salida 1 en la posición del objeto 	Definir el punto de conmutación de la salida 1 en la posición del objeto 	Definir el punto de conmutación de la salida 1 en la posición del objeto 
Nivel 2	Aprendizaje de ventana	2-Point Teach/Ventana	1-Point Teach Salida 2
	Definir una ventana de detección del objeto 	Definir el intervalo de medición respecto a la salida analógica. La salida 1 se activa si detecta un objeto dentro del intervalo. 	Definir el punto de conmutación de la salida 2 en la posición del objeto 

Instrucciones Teach-In

Información general
- En modo teach la salida cambia a 0 V.
- En modo normal el cable deteach se pone a 0 V.
- Para teach-in externo, conectar el cable teach a +Vs
- El teach-in externo está siempre disponible (no se bloquea)



LED 指示灯



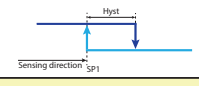
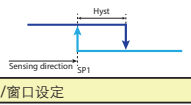
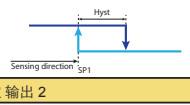
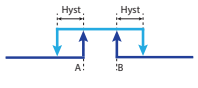
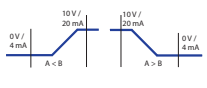
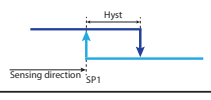
图例

- LED 亮
- 1 LED 闪烁 1 Hz
- 2 LED 闪烁 2 Hz
- 8 LED 闪烁 8 Hz

操作模式 (CN)

LED 指示灯	绿	黄
通电	●	
短路	1	
输出 1 激活		●
输出 1 信号接近阈值		8
输出 2 激活		
输出 2 信号接近阈值		
Teach-in 模式	详见 Teach-in 说明	

Teach-In 说明 1 级 & 2 级

	UR12.P 单输出	UR12.D	UR12.P 双输出
1级	1 点设定 输出 1	1 点设定 输出 1	1 点设定 输出 1
	将输出 1 的开关点设置在被测物的位置 	将输出 1 的开关点设置在被测物的位置 	将输出 1 的开关点设置在被测物的位置 
2级	窗口设定	2 点设定/窗口设定	1 点设定 输出 2
	设置一个被测物应被检测到的窗口 	设置与模拟值相对应的测量范围. 如果被测物处于测量范围内, 则输出 1 处于激活状态 	将输出 2 的开关点设置在被测物的位置 

设定说明

总览:
- 在设定模式下输出变至 0 V.
- 在通常情况西设定先接至 0 V.
- 对于外部设定, 将设定线连接至 +Vs.
- 外部设定线永久有效 (无自锁)