

# Photoelectric sensors

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11721676

O300.D\*.2



EN  
DE  
FR  
IT  
ES  
CN

qTarget®  
qTeach®

www.baumer.com

**Baumer**

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# Models with IO-Link

**IO-Link**

IO-Link Process Data Input									
16	8	8 bit							
IntegerT(32)	IntegerT(8)								
Measurement Data Channel (MDC)	Scale	Baumer specific							
		7	6	5	4	3	2	1	0
		Alarm	Quality	SSC1.2	SSC1.1				

SSC1.1/1.2: Switching Signal Channels

MDC: Distance value  
Quality: The quality bit signals a weak 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, light emission on/off, Find Me (locating sensor) and more

**Available Parameters:**

Switching point, switching hysteresis, output function, time filters, measured value filtering, analog output characteristic, qTeach lock time, LED status indicators and more

**Available Additional Data:**

Switch counts, temperature, boot cycles, operating hours, device temperature, operating voltage, histograms

# Related Models

**O300.D\*.2 Models:**

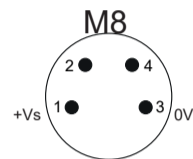
O300H.D\*.2 (Hygienic design)  
O300W.D\*.2 (Washdown design)

More information related to these products can be found on our website (CAD, Beam charts, CoC, Drawings, IODDs ...)



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# Connection Diagrams

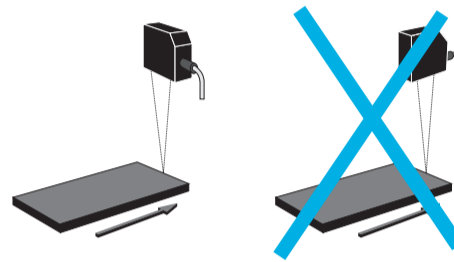


Distance measuring sensors	
O300.D*.2	
1 - Brown BN	+Vs
2 - White WH	Analog U or I
3 - Blue BU	0 V
4 - Black BK	IO-Link* / Output 1

\*Only models with IO-Link  
See packaging label for the specific wiring of your product

- 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

# Mounting Instructions



It is recommended that the object to be detected approaches the active area of the sensor from the side. This may avoid malfunctions caused by deflection of the light beam at edges. Exception: Sensors with line beam



qTarget®  
The Baumer design aligns the sensor's light beam to the fixing holes (qTarget®). This allows for a fast and easy installation without fine-tuning as well as fast exchange.

# LED Indication



# Legend

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

# Operating Mode

LED Indicators	Green	Yellow	Blue
Power on	●		
Short circuit	①		
Output 1 active		●	
Output 1 signal close to threshold		⑧	
qTeach not locked			●
Teach-in mode	see Teach-in Instruction		

# LED Anzeige



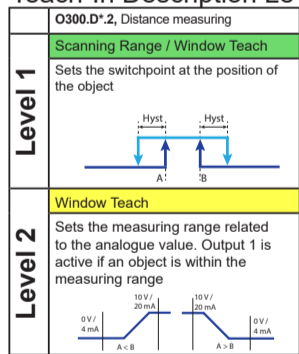
# Legende

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

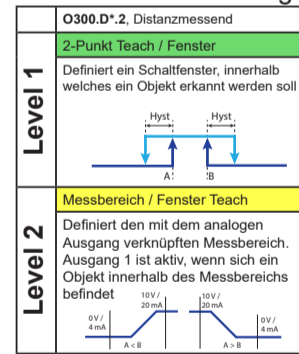
# Betriebsmodus

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

# Teach-In Description Level 1 & 2

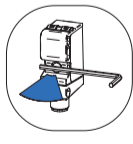


# Teach-In Beschreibung Level 1 & 2

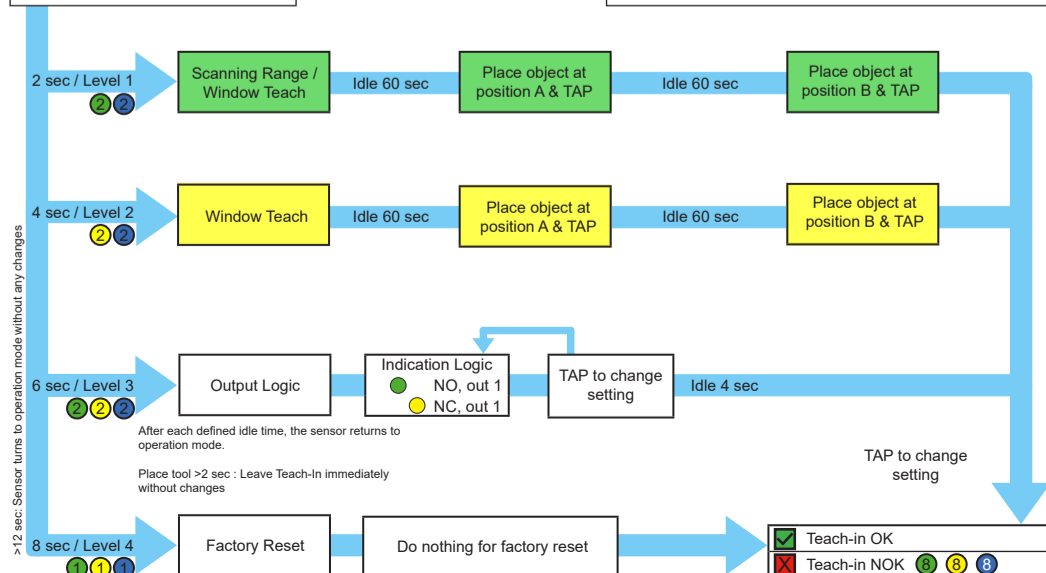


# Teach-in Instruction

**Enter Teach Level**  
- Place ferromagnetic tool as shown right to activate qTeach® or connect Teach-In wire to +Vs  
- The blue LED gets brighter if tool / Teach-In is recognized properly  
- Remove after n sec for desired level  
A TAP is a short touch (>100 ms) of the tool as shown right

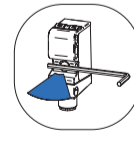


**General Information**  
- qTeach® locks 5 min after power up\*  
- If locked, qTeach® can be reactivated by re-applying power or by connecting the Teach-In wire to +Vs  
- External teach-in is always possible (no locking)  
- In teach mode the output changes to 0V  
- During operation the teach wire should be connected to 0V  
- For external Teach-In connect Teach-In to +Vs

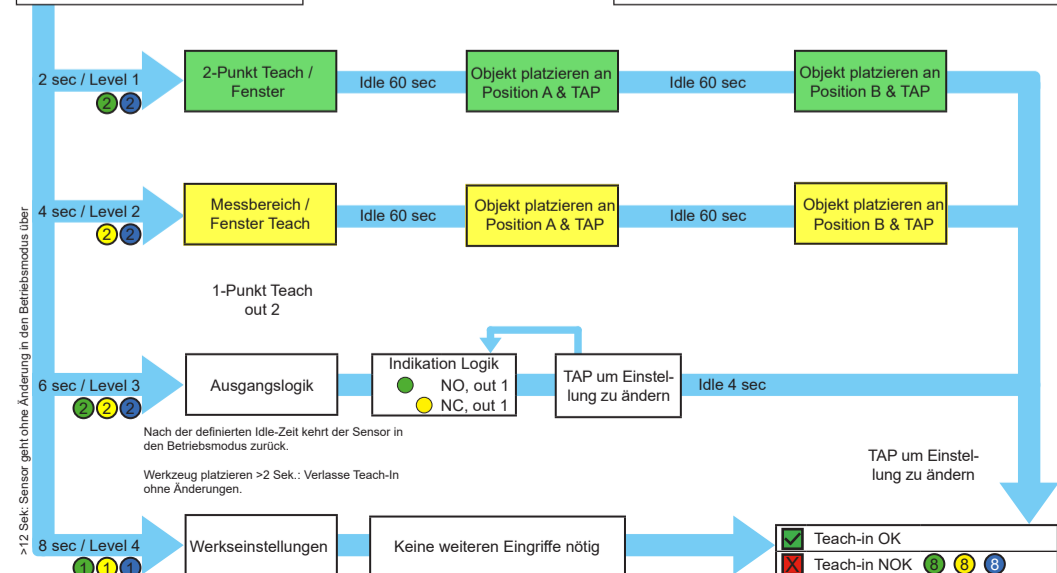


# Teach-in Anleitung

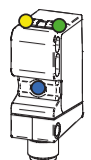
**Teach Level auswählen**  
- Platziere das ferromagnetische Werkzeug wie rechts dargestellt um qTeach® zu aktivieren oder verbinde die Teachleitung mit +Vs  
- Die blaue LED leuchtet auf, wenn das Werkzeug korrekt erkannt wird  
- Nach n Sek. entfernen, um das gewünschte Level auszuwählen  
Ein TAP ist eine kurze Berührung (>100 ms) des Werkzeugs



**Allgemeine Information**  
- qTeach® verriegelt 5 min nach dem Einschalten\*  
- Falls gesperrt, kann qTeach® durch ein erneutes Einschalten oder durch den Anschluss der Teach-In-Leitung für >12 Sek. an +Vs reaktiviert werden  
- Externes Teach-In ist immer möglich (keine Verriegelung)  
- Im Teachmodus wechselt der Ausgang auf 0V  
- Im Normalbetrieb muss die Teachleitung auf 0V gelegt werden  
- Für externes Teach-In, Teachleitung entsprechend mit +Vs verbinden



### Indication LED



### Légende

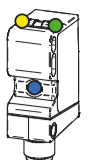
- LED ON
- 1 LED clignotante 1 Hz
- 2 LED clignotante 2 Hz
- 8 LED clignotante 8 Hz

### Mode de fonctionnement

Indicateurs LED	Vert	Jaune	Bleu
Power On	●		
Court-circuit	1		
Sortie 1 activée		●	
Sortie 1 signal proche du seuil		8	
qTeach disponible			●

Mode Teach-In Voir Instructions Teach-In

### Indicazioni LED



### Legenda

- LED acceso
- 1 LED lampeggia a 1 Hz
- 2 LED lampeggia a 2 Hz
- 8 LED lampeggia a 8 Hz

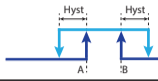
### Modalità operativa

Indicazioni LED	Verde	Giallo	Blu
Power On	●		
Corto circuito	1		
Uscita 1 attiva		●	
Uscita 1 prossima alla soglia		8	
qTeach utilizzabile			●

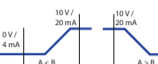
Modalità di Teach-In see Teach-In Instruction

### Description Teach-In Niveau 1 & 2

**Niveau 1**  
Teach 2 Points / Fenêtre  
Régler une fenêtre dans laquelle un objet doit être détecté

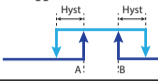


**Niveau 2**  
Teach 2 Points / Fenêtre  
Régler la zone de mesure correspondante à la sortie analogique. La Sortie 1 est active si l'objet est dans la zone définie.

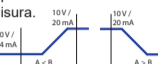


### Descrizione dei livelli 1 e 2 Teach-In

**Livello 1**  
Soglia di commutazione a fi sinistra  
Impostare una soglia di commutazione a fi sinistra all'interno della quale rilevare l'oggetto




**Livello 2**  
Teach del range di misura a 2 punti  
Impostare il range relativo all'uscita analogica. Se l'uscita digitale non viene impostata nel livello 1 rimane sempre attiva all'interno del range di misura.



### Instructions Teach-In

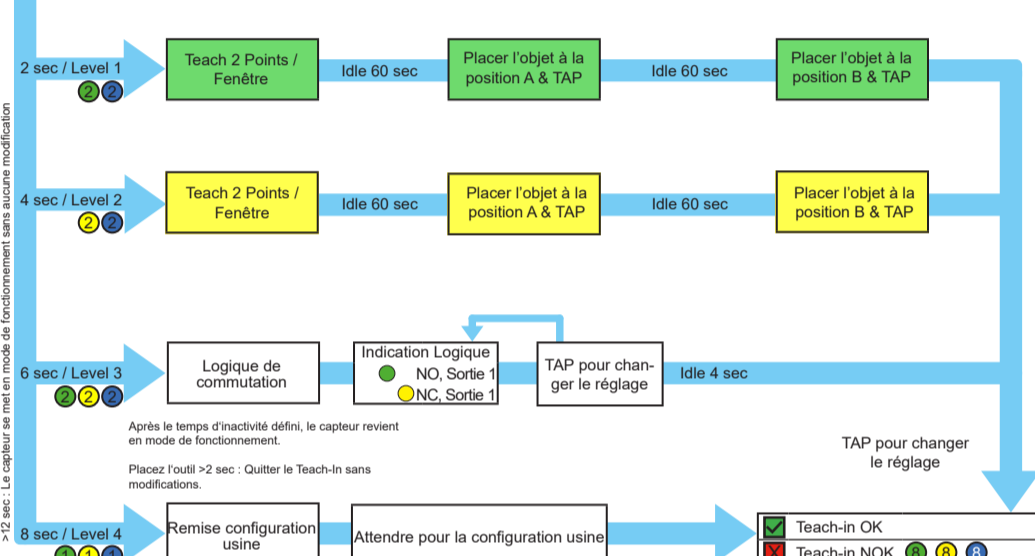
**Entrée en mode Teach:**

- Placer l'outil ferromagnétique comme indiqué ci-contre pour activer qTeach® ou connecter le fil Teach-In au +Vs
- La LED bleue devient plus brillante si l'outil / Teach-In est reconnu correctement
- Enlever après n sec pour le niveau souhaité
- Un TAP est une courte touche (>100 ms) de l'outil comme présenté ci-contre



**Information Générale**


- qTeach® se verrouille 5 min après la mise sous tension.
- Si il est verrouillé, qTeach® peut être réactivé en réappliquant l'alimentation ou en connectant le fil de Teach-In pendant >12 sec. à +Vs
- Le Teach externe est toujours disponible (Pas de verrouillage)
- En mode Teach la sortie est à 0V
- En mode normal l'entrée Teach est à 0V
- Pour un Teach externe, connecter l'entrée Teach correspondant au +Vs



### Istruccioni Teach-In

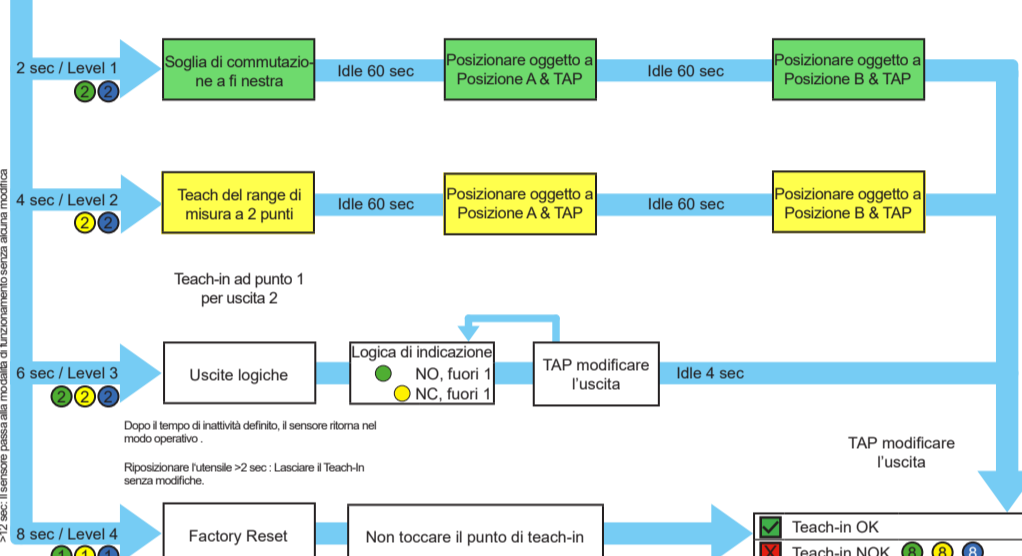
**Selezionare il livello di Teach-In**

- Posizionare l'utensile ferromagnetico mostrato a destra di attivare qTeach® o collegare il cavo Teach-In a +Vs.
- L'illuminazione del LED blu aumenta di intensità se l'utensile Teach-In viene riconosciuto correttamente.
- Rimuovere dopo n sec. per il livello desiderato




**Informazione generali**

- La funzione di qTeach® si disattiva dopo 5min dall'accensione del sensore
- Se disabilitato qTeach® può essere riattivato mediante riapplicazione dell'alimentazione o collegando il filo Teach-In per >12 sec. a +Vs
- In modalità Teach-In l'output assume un valore pari a 0V
- Il Teach-In da remoto è sempre possibile (non si disattiva dopo 5 min)
- Durante il normale funzionamento del sensore il cavo Teach-In va messo 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

### Modo operativo

LED Indicators	green	yellow	blue
Power On	●		
Cortocircuito	1		
Salida 1 activa		●	
Salida 1 señal dentro del intervalo		8	
qTeach disponible			●

Modo Teach-In Ver instrucciones Teach-In

### 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

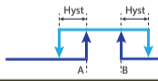
### 操作模式

LED 指示灯	绿	黄	蓝
通电	●		
短路	1		
输出 1 激活		●	
输出 1 信号接近阈值		8	
qTeach 可使用			●

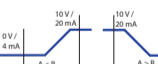
Teach-in 模式 详见 Teach-in 说明

### Descripción Teach-In Nivel 1 & 2

**Nivel 1**  
Aprendizaje de ventana  
Definir una ventana de detección del objeto

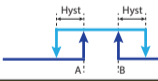


**Nivel 2**  
2-Point Teach/Ventana  
Definir el intervalo de medición respecto a la salida analógica. La salida 1 se activa si detecta un objeto dentro del intervalo.

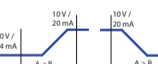


### Teach-In 说明 1 级 & 2 级

**1级**  
窗口设定  
设置一个被测物应被检测到的窗口




**2级**  
2点设定  
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



### Instruccioni Teach-In

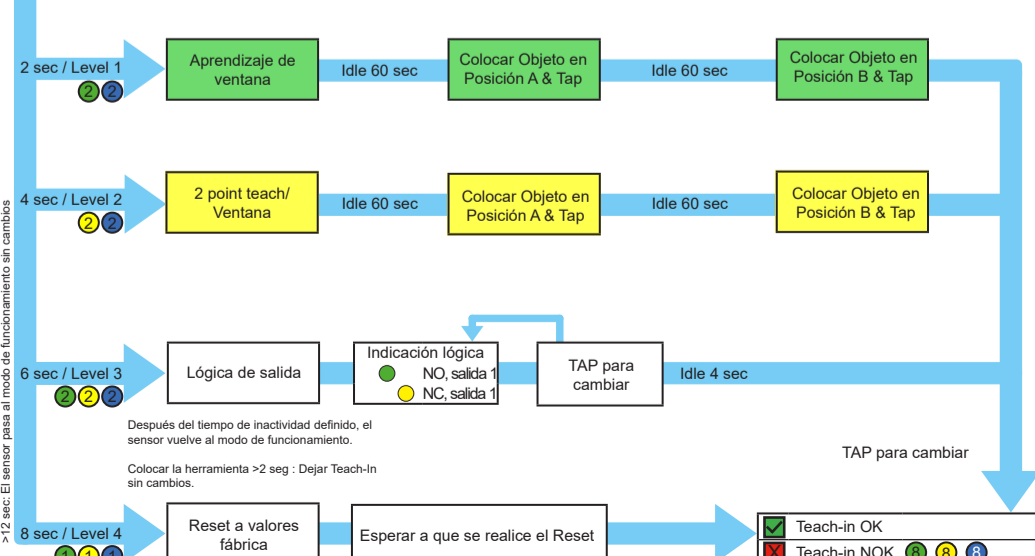
**Entrar en modo Teach:**

- Coloque la herramienta ferromagnética como indica la imagen para activar qTeach® o conectar el cable Teach-In a +Vs
- El led azul se ilumina si la herramienta o señal teach-in se reconoce correctamente.
- Retirar tras n segundos para el nivel deseado
- Un TAP es un toque corto (>100 ms) de la herramienta



**Información general**


- qTeach® se bloquea 5 min después de la alimentación
- Si está bloqueado, qTeach® puede ser reactivado volviendo a dar alimentación o conectando el cable de Teach-In durante >12 seg. a +Vs
- El teach-in externo está siempre disponible (no se bloquea)
- En modo teach la salida cambia a 0V
- En modo normal el cable de teach se pone a 0V
- Para teach-in externo, conectar el cable teach a +Vs



### 设定说明

**进入设定等级:**

- 如右图所示放置金属工具或连接设定线至 +Vs
- 蓝色LED 变得更亮, 如果工具或设定被正确识别
- 在 n 秒后当选定所需的等级是拿开触碰是如右图所示用工具快速靠近感应区域



**总览:**

- qTeach® 开启5分钟后自行锁定
- 锁定之后, qTeach® 可以通过重新上电或者把外部示教线连接到 +Vs 上大于12秒后进行激活
- 在设定模式下输出变为 0 V
- 在通常情况下设定先接至 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)

