

Photoelectric sensors

O500.D*.2



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qTarget®
qTeach®

Related Models

O500.D*.2 Models:
O500H.D*.2 (Hygienic design)
O500W.D*.2 (Washdown design)

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



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Models with IO-Link



IO-Link Process Data Input									
16		8		0					
IntegerT(32)	IntegerT(8)	8 bit							
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

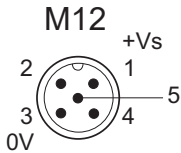
Available Parameters:

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

Connection Diagrams

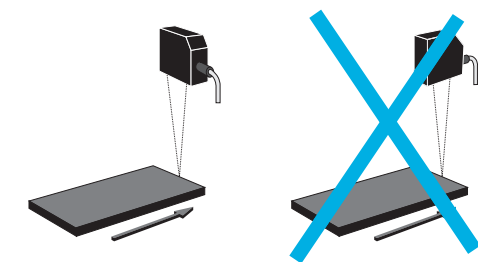


Distance measuring sensors	
O500.D*.2	
1 - Brown BN	+Vs
2 - White WH	Analog U or I
3 - Blue BU	0 V
4 - Black BK	IO-Link* / Output 1
5 - Grey GY	Teach-in / control

*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

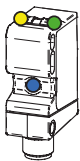


It is recommended that the object to be detected approaches the active area of the sensor from the side.
This may avoid malfunctions caused by deflection of the light beam at edges.
Exception: Sensors with line beam



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

LED Indication



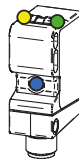
Legend

- 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

O500.D*.2, Distance measuring	
Level 1	Scanning Range / Window Teach Sets the switchpoint at the position of the object +TPO* (teach point offset) TPO: See packaging (typ. 5%)
Level 2	Window Teach set a window in which an object should be detected

Teach-In Beschreibung Level 1 & 2

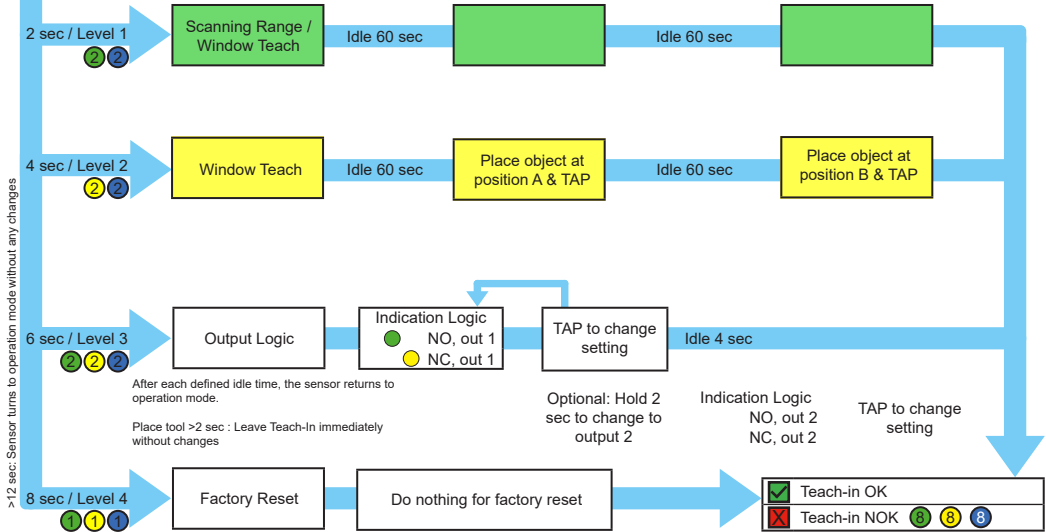
O500.D*.2, Distanzmessend	
Level 1	2-Punkt Teach / Fenster Definiert ein Schaltfenster, innerhalb welches ein Objekt erkannt werden soll
Level 2	Messbereich / Fenster Teach Definiert den mit dem analogen Ausgang verknüpften Messbereich. Ausgang 1 ist aktiv, wenn sich ein Objekt innerhalb des Messbereichs befindet

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
ATAP 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-apply-power or by connecting the Teach-In wire for >15 sec. 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

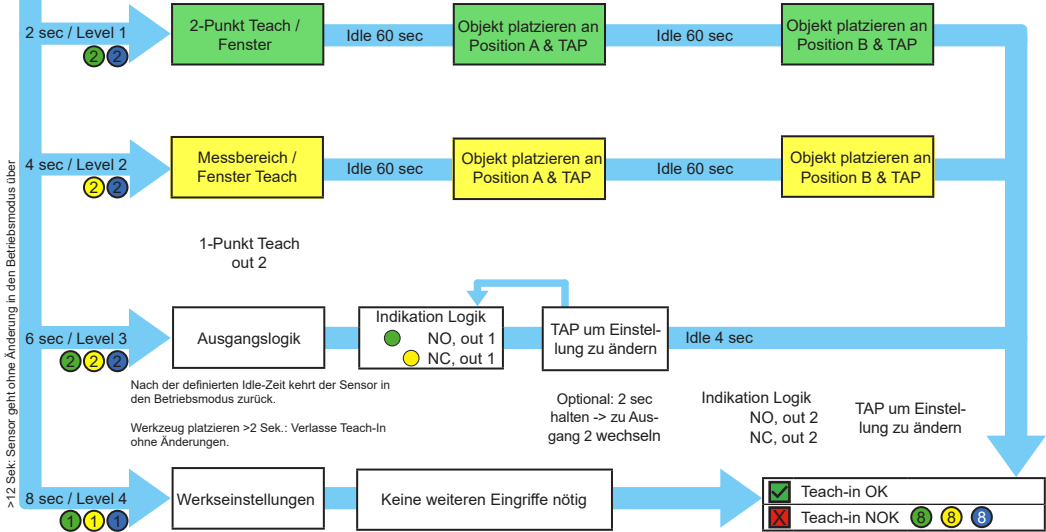


Teach-in Anleitung

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 >15 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

LED clignotante 1 Hz

LED clignotante 2 Hz

LED clignotante 8 Hz

Mode de fonctionnement

Indicateurs LED

Power On

Court-circuit

Sortie 1 activée

Sortie 1 signal proche du seuil

qTeach disponible

Mode Teach-In

Vert

1

Jaune

8

Bleu

Mode Teach-In

Voir Instructions Teach-In

Indicazioni LED

Legenda

LED acceso

LED lampeggia a 1 Hz

LED lampeggia a 2 Hz

LED lampeggia a 8 Hz

Modalità operativa

Indicazioni LED

Power On

Corto circuito

Uscita 1 attiva

Uscita 1 prossima alla soglia

qTeach utilizzabile

Modalità di Teach-In

Verde

1

Giallo

8

Blu

see Teach-In Instruction

Description Teach-In Niveau 1 & 2

Niveau 1

O500.D*.2. Mesure de la distance

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.

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 bleu 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.
- S'il est verrouillé, qTeach® peut être réactivé en réappliquant l'alimentation ou en connectant le fil de Teach-In pendant >15 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

2 sec / Level 1

Teach 2 Points / Fenêtre

Idle 60 sec

Placer l'objet à la position A & TAP

Idle 60 sec

Placer l'objet à la position B & TAP

4 sec / Level 2

Teach 2 Points / Fenêtre

Idle 60 sec

Placer l'objet à la position A & TAP

Idle 60 sec

Placer l'objet à la position B & TAP

6 sec / Level 3

Logique de commutation

Indication Logique

TAP pour changer le réglage

Idle 4 sec

Après le temps d'inactivité défini, le capteur revient en mode de fonctionnement.

Option: Maintenir 2 sec pour passer à la Sortie 2

Indication Logique NO, Sortie 2 NC, Sortie 2

TAP pour changer le réglage

8 sec / Level 4

Remise configuration usine

Attendre pour la configuration usine

Teach-in OK

Teach-in NOK

Descrizione dei livelli 1 e 2 Teach-In

Livello 1

O500.D*.2. Misurazione della distanza

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.

Istruccioness Teach-In

Selezionare il livello di Teach-In

- Posizionare l'utensile ferromagnetico come 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

TAP indica un breve tocco con l'utensile sul punto di teach.

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 >15 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

2 sec / Level 1

Soglia di commutazione a fi sinistra

Idle 60 sec

Posizionare oggetto a Posizione A & TAP

Idle 60 sec

Posizionare oggetto a Posizione B & TAP

4 sec / Level 2

Teach del range di misura a 2 punti

Idle 60 sec

Posizionare oggetto a Posizione A & TAP

Idle 60 sec

Posizionare oggetto a Posizione B & TAP

6 sec / Level 3

Uscite logiche

Logica di indicazione

TAP modificare l'uscita

Idle 4 sec

Dopo il tempo di inattività definito, il sensore ritorna nel modo operativo.

Riposizionare l'utensile >2 sec. Lasciare il Teach-In senza modifiche.

Opzionale: Toccare 2 sec. In più per modificare l'uscita 2

Logica di indicazione NO, fuori 2 NC, fuori 2

TAP modificare l'uscita

8 sec / Level 4

Factory Reset

Non toccare il punto di teach-in

Teach-in OK

Teach-in NOK

Información LED

Leyenda

LED ON

LED parpadeo 1 Hz

LED parpadeo 2 Hz

LED parpadeo 8 Hz

Modo operativo

LED Indicators

Power On

Cortocircuito

Salida 1 activa

Salida 1 señal dentro del intervalo

qTeach disponible

Modo Teach-In

green

1

yellow

8

blue

Ver instrucciones Teach-In

Descripción Teach-In Nivel 1 & 2

Nivel 1

O500.D*.2. Medición de la distancia

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.

Instrucciones 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 >15 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

2 sec / Level 1

Aprendizaje de ventana

Idle 60 sec

Colocar Objeto en Posición A & Tap

Idle 60 sec

Colocar Objeto en Posición B & Tap

4 sec / Level 2

2 point teach/ Ventana

Idle 60 sec

Colocar Objeto en Posición A & Tap

Idle 60 sec

Colocar Objeto en Posición B & Tap

6 sec / Level 3

Lógica de salida

Indicación lógica

TAP para cambiar

Idle 4 sec

Después del tiempo de inactividad definido, el sensor vuelve al modo de funcionamiento.

Colocar la herramienta >2 seg : Dejar Teach-In sin cambios.

Opcional: Mantener 2 seg para cambiar a Salida 2

Indicación lógica NO, salida 2 NC, salida 2

TAP para cambiar

8 sec / Level 4

Reset a valores fábrica

Esperar a que se realice el Reset

Teach-in OK

Teach-in NOK

Teach-In 说明 1 级 & 2 级

1级

O500.D*.2.距离测量

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

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 秒后档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

传感器返回正常工作模式且参数无任何变化

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15秒后进行激活
- 在设定模式下输出变为 0 V
- 在通常情况而设定先接至 +Vs
- 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)

2 sec / Level 1

窗口设定

Idle 60 sec

将被测物放置于位置 A 并触碰

Idle 60 sec

将被测物放置于位置 B 并触碰

4 sec / Level 2

2 点设定 / 窗口设定

Idle 60 sec

将被测物放置于位置 A 并触碰

Idle 60 sec

将被测物放置于位置 B 并触碰

6 sec / Level 3

输出逻辑

指标逻辑

触碰来改变设定

Idle 4 sec

超出定义的时间后, 传感器返回到正常工作模式.

触碰大于2秒后离开, 离开示教过程传感器无改变

可选: 保持 2 秒改变至输出 2

指标逻辑 NO, 出 2 NC, 出 2

触碰来改变设定

8 sec / Level 4

恢复出厂设置

期间不进行任何设定

Teach-in OK

Teach-in NOK