

Radar-Abstandssensoren DR...

Weitere Unterlagen

Ergänzend zu diesem Dokument finden Sie im Internet unter www.turck.com folgende Unterlagen:

- Datenblatt
- Betriebsanleitung
- IO-Link-Parameter
- IO-Link-Inbetriebnahmehandbuch
- Konformitätserklärungen
- Zulassungen

Zu Ihrer Sicherheit

Bestimmungsgemäße Verwendung

Die Radar-Abstandssensoren der Baureihe DR... erfassen berührungslos die Anwesenheit von Objekten im Erfassungsbereich und messen den Abstand zu den Objekten. Wenn sich mehrere Objekte im Erfassungsbereich befinden, wird das Objekt erfasst, das sich am nächsten am Sensor befindet. Erfassungsbereich und Objekterfassung können über Filtereinstellungen und Sensorkonfigurationen angepasst werden.

Die Geräte dürfen nur wie in dieser Anleitung beschrieben verwendet werden. Jede andere Verwendung gilt als nicht bestimmungsgemäß. Für daraus resultierende Schäden übernimmt Turck keine Haftung.

Allgemeine Sicherheitshinweise

- Nur fachlich geschultes Personal darf das Gerät montieren, installieren, betreiben, parametrieren und instand halten.
- Das Gerät nicht im Bereich des Personen- und Maschinenschutzes einsetzen.
- Die maximal emittierte Sendeleistung des Sensors übersteigt nicht die zugelassenen Grenzwerte nach ETSI EN 305550-2 und FCC/CFR. 47 Part 15.

Hinweise zur UL-Zulassung

- Das Gerät muss von einem Class-2-Netzteil oder von einer Stromversorgung mit limitierter Spannung/limitiertem Strom versorgt werden.
- Die Radarsensoren müssen mit einer gelisteten (CYJV/7 oder CYJV2/8) Kabel-/Steckverbinderbaugruppe mit einem Nennwert von mindestens 36 VDC und mindestens 270 mA verwendet werden, die für die Anwendung in der Endinstallation geeignet ist.

Produktbeschreibung

Geräteübersicht

Siehe Abb. 1: Geräteansicht, Abb. 2: Abmessungen.

Funktionen und Betriebsarten

Typ	Ausgang
DR...-IOL8...	1 Schaltausgang (PNP/NPN/Auto) sowie 1 Schaltausgang (PNP/NPN/Auto) oder 1 Analogausgang (I/U/Auto)
DR...-2UPN...	2 Schaltausgänge (PNP/NPN/Auto)

Das Gerät misst die Distanz zwischen dem Erfassungsobjekt und dem Ende des Sensorgehäuses. Für die Schaltausgänge lässt sich ein Einzelschaltpunkt oder eine Fensterfunktion festlegen. Der Messbereich des Analogausgangs kann innerhalb der Messbereichsgrenzen frei eingestellt werden. An den Ausgängen stellt das Gerät je nach Ausführung Analog- oder Schaltsignale zur Verfügung. Zusätzlich wird der Messwert über die IO-Link-Prozessdaten an die übergeordnete Steuerungsebene gesendet. Der Abstandswert wird in m über die Prozessdaten übertragen.

Das Gerät ist über IO-Link und über die Teach-Funktion parametrierbar.

Montieren

Bei der Montage muss die Linienwölbung nicht berücksichtigt werden. Der Sensor erfasst das Objekt, das dem Sensor am nächsten ist, und gibt den Abstand aus. Objektreflexionen können über die Sensorparameter gefiltert werden.

Je nach Anwendungsfall dürfen die Sensoren in beliebiger Ausrichtung montiert werden. Die Radarwelle breitet sich senkrecht zur Radarliniensfläche aus. Den Öffnungswinkel entnehmen Sie der folgenden Tabelle:

Typ	Öffnungswinkel
DR...S-...	± 7,5°

Das maximale Anziehdrehmoment bei der Befestigung des Sensors beträgt 75 Nm.

- ▶ Sensor am vorgesehenen Einsatzort montieren. Die Blindzone s_{min} beachten, in der keine Objekterfassung stattfindet (siehe technische Daten).
- ▶ Sensor so montieren, dass keine Fremdobjekte im Erfassungsbereich liegen (s. Abb. 3).

Anschließen

- ▶ Gerät gemäß „Wiring diagrams“ anschließen.

In Betrieb nehmen

Nach Anschluss der Leitungen und Aufschalten der Versorgungsspannung geht das Gerät automatisch in Betrieb.

Betreiben

LED-Anzeigen

LED	Bedeutung
gelb	Schließer: Objekt im Teach-Bereich, Schaltausgang 1 ein Öffner: kein Objekt im Teach-Bereich, Schaltausgang 1 ein
grün	Schließer: Objekt im Erfassungsbereich, aber nicht im Teach-Bereich, Schaltausgang 1 aus Öffner: Objekt im Teach-Bereich, Schaltausgang 1 aus
aus (nur Schließer)	kein Objekt im Erfassungsbereich, Schaltausgang 1 aus
blinkt grün	IO-Link-Modus aktiv

Einstellen und Parametrieren

Die Geräte lassen sich wie folgt teachen:

- Manuelles Brücken (kurzschließen): Pin 1 mit Pin 4 kurzschließen.

Nach erfolgreichem Teach-Vorgang wechseln die Geräte automatisch in den Normalbetrieb.

Die Parametrierung über IO-Link ist im IO-Link-Inbetriebnahmehandbuch beschrieben.

Bei einem erfolgreichen Teach leuchtet die LED für 2 s grün. Wenn ein Teach nicht erfolgreich war, blinkt die LED für 2 s gelb mit einer Frequenz von 5 Hz.

Ausgang auswählen

- ▶ Schaltausgang 1: Pin 1 für 2...7 s mit Pin 4 kurzschließen.
- ▶ Ausgang 2: Pin 1 für 8...14 s mit Pin 4 kurzschließen.

Einzelschaltpunkt einstellen (Abb. 4)

- ▶ Ausgang auswählen.
- ▶ Objekt für Schaltpunkt im Erfassungsbereich positionieren.
- ▶ Innerhalb von 30 s Pin 1 für 2...8 s mit Pin 4 kurzschließen.

Schaltfenster einstellen (Abb. 5)

- ▶ Ausgang auswählen.
- ▶ Objekt für 1. Schaltpunkt im Erfassungsbereich positionieren.
- ▶ Innerhalb von 30 s Pin 1 für 2...8 s mit Pin 4 kurzschließen.
- ▶ Ausgang erneut auswählen.
- ▶ Objekt für 2. Schaltpunkt im Erfassungsbereich positionieren.
- ▶ Innerhalb von 30 s Pin 1 für 8...14 s mit Pin 4 kurzschließen.

Ausgangsfunktion einstellen (Abb. 6)

- ▶ Ausgang auswählen.
- ▶ Innerhalb von 30 s Pin 1 für 14...20 s mit Pin 4 kurzschließen.
- ▶ PNP-Ausgang: Pin 1 für 2...8 s mit Pin 4 kurzschließen.
- ▶ NPN-Ausgang: Pin 1 für 8...14 s mit Pin 4 kurzschließen.

Zurücksetzen auf Werkseinstellungen (Abb. 7)

- ▶ Reset starten: Pin 1 für 14...20 s mit Pin 4 kurzschließen.
- ▶ Reset bestätigen: Innerhalb von 30 s Pin 1 für 2...8 s mit Pin 4 kurzschließen.

Instand halten

Das Gerät ist wartungsfrei, bei Bedarf mit einem feuchten Tuch reinigen.

Reparieren

Sollte das Gerät defekt sein, nehmen Sie es außer Betrieb. Das Gerät darf nur durch Turck repariert werden. Bei Rücksendung an Turck beachten Sie bitte unsere Rücknahmebedingungen.

Entsorgen

Die Geräte müssen fachgerecht entsorgt werden und gehören nicht in den normalen Hausmüll.

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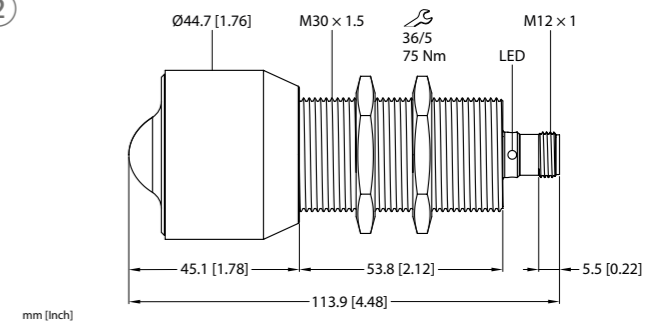


DR...
Radar Distance Sensors
Quick Start Guide
Doc. no. 100031885

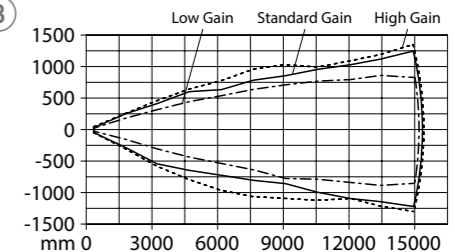
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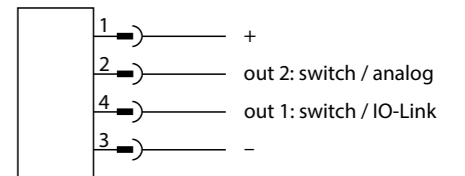
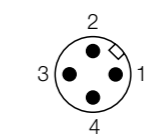
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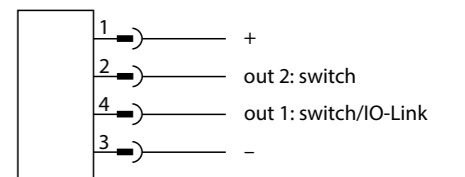
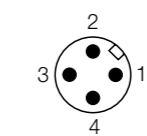
DR15S...

Wiring diagrams

DR...IOL8X2



DR...2UPN...



Technische Daten

Messbereich	DR15S...: 0,35...15 m
Blindzone s_{min}	350 mm
Frequenzbereich	122...123 GHz
Auflösung	1 mm
Hysterese	≤ 50 mm
Umgebungstemperatur	-25...+65 °C
Betriebsspannung	18...33 V (SELV/PELV)
Leistungsaufnahme	max. 19 W (3 W intern, 16 W extern)
Bereitschaftsverzug	450 ms
Ausgang 1	Schaltausgang oder IO-Link
Ausgang 2	Schalt- oder Analogausgang
Bemessungsbetriebsstrom	≤ 250 mA
Schutzart	IP67, IP69K (UL: Type 1)
Gewicht	255 g
Elektromagnetische Verträglichkeit (EMV)	EN 61000-6-2:2019 ETSI EN 301489-3 V1.6.1
Luftfeuchtigkeit	0...99 % rel.

Declaration of conformity

Hiermit erklärt die Hans Turck GmbH & Co. KG, dass die Radar-Abstandssensoren der Baureihe DR... der Richtlinie 2014/53/EU und den Radio Equipment Regulations 2017 entsprechen. Der vollständige Text der EU/UK-Konformitätserklärung ist unter der folgenden Internetadresse verfügbar: www.turck.com

Hereby, Hans Turck GmbH & Co. KG declares that the radar distance sensors series DR... are in compliance with Directive 2014/53/EU and Radio Equipment Regulations 2017. The full text of the EU/UK declaration of conformity is available at the following internet address: www.turck.com

FCC digital device limitations

FCC ID: YQ7-DRXXX-M30E

This device complies with Part 15 of the FCC Rules standard(s).

Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Radiofrequency radiation exposure Information:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance of 20 cm between the radiator and your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

DR... Radar Distance Sensors

Other documents

Besides this document, the following material can be found on the Internet at www.turck.com:

- Data sheet
- Instructions for use
- IO-Link parameters
- IO-Link commissioning manual
- Declarations of conformity
- Approvals

For your safety

Intended use

The radar distance sensors of the DR... series detect the presence of objects and measure the distance to those objects without contact. If multiple objects are in the detection range, the object closest to the sensor is detected. Detection range and object detection can be adjusted via filter settings and sensor configurations.

The devices must only be used as described in these instructions. Any other use is not in accordance with the intended use. Turck accepts no liability for any resulting damage.

General safety instructions

- The device must only be mounted, installed, operated, parameterized and maintained by trained and qualified personnel.
- Do not use the device for the protection of persons or machines.
- The maximum transmission output of the sensor is within the approved limit values specified in ETSI EN 305550-2 and FCC/CFR. 47 Part 15.

Notes on the UL approval

- The device must be powered by a Class 2 power supply unit or a power supply with a limited voltage/current.
- The radar sensors must be used with a listed (CYJV/7 or CYJV2/8) cable/connector module with a rated value of at least 36 VDC and 270 mA which is suitable for the application in the final installation.

Product description

Device overview

See fig. 1: device view, fig. 2: dimensions.

Functions and operating modes

Type	Output
DR...-IOL...	1 switching output (PNP/NPN/Auto) as well as 1 switching output (PNP/NPN/Auto) or 1 analog output (I/U/Auto)
DR...-2UPN...	2 switching outputs (PNP/NPN/Auto)

The device measures the distance between the detected object and the end of the sensor housing. A single switching point or window function can be set for the switching outputs. The measuring range of the analog output can be defined as required within the measuring range limits. The device provides analog or switching signals at the outputs depending on type. The measured value is also sent via the IO-Link process data to the higher control level. The distance value is transferred in m via the process data.

The device parameters can be set via IO-Link and via the teach-in function.

Installing

The lens curvature does not have to be taken into account for the installation. The sensor detects the object nearest to the sensor and outputs the distance. Object reflections can be filtered out using the sensor parameters.

The sensors can be installed in any alignment according to application requirements. The radar wave propagates perpendicular to the surface of the radar lens. Refer to the following table for the opening angle:

Type	Opening angle
DR...S-...	± 7.5°

The maximum tightening torque for fastening the sensor is 75 Nm.

- ▶ Install the sensor at the intended mounting location. Observe blind zone s_{min} , in which no object detection is possible (see technical data).
- ▶ Install the sensor in such a way that no foreign objects are located in the measuring range (see fig. 3).

Connection

- ▶ Connect the device as shown in "Wiring diagrams".

Commissioning

The device is operational automatically once the cables are connected and the power supply is switched on.

Operation

LED indications

LED	Meaning
Yellow	NO contact: Object within the teach-in range, switching output 1 on NC contact: No object in teach range, switching output 1 on
Green	NO contact: Object in detection range, but not in teach-in range, switching output 1 off NC contact: Object within the teach-in range, switching output 1 off
Off (only NO contact)	No object within the detection range, switching output 1 off
Green flashing	IO-Link mode active

Setting and parameterization

Teach in the devices as follows:

- Manual bridging (shorting): Short circuit pin 1 with pin 4.

Once the teach-in process has been successfully completed, the devices automatically switch to normal operation.

Parameter setting via IO-Link is explained in the IO-Link commissioning manual.

The LED is lit green for 2 s if the teach-in operation is successful. If a teach-in operation was not successful, the LED flashes yellow for 2 s at a frequency of 5 Hz.

Selecting the output

- ▶ Switching output 1: Short-circuit pin 1 with pin 4 for 2...7 s.
- ▶ Output 2: Short-circuit pin 1 with pin 4 for 8...14 s.

Setting the single switch point (fig. 4)

- ▶ Select the output.
- ▶ Position the object for the switching point in the detection range.
- ▶ Short-circuit pin 1 with pin 4 for 2...8 s within 30 s.

Setting the switching window (fig. 5)

- ▶ Select the output.
- ▶ Position the object for switching point 1 in the detection range.
- ▶ Short-circuit pin 1 with pin 4 for 2...8 s within 30 s.
- ▶ Reselect the output.
- ▶ Position the object for switching point 2 in the detection range.
- ▶ Short-circuit pin 1 with pin 4 for 8...14 s within 30 s.

Setting the output function (fig. 6)

- ▶ Select the output.
- ▶ Short-circuit pin 1 with pin 4 for 14...20 s within 30 s.
- ▶ PNP output: Short-circuit pin 1 with pin 4 for 2...8 s.
- ▶ NPN output: Short-circuit pin 1 with pin 4 for 8...14 s.

Resetting to factory settings (fig. 7)

- ▶ Start reset: Short-circuit pin 1 with pin 4 for 14...20 s.
- ▶ Press Reset: Short-circuit pin 1 with pin 4 for 2...8 s within 30 s.

Maintenance

The device is maintenance-free. Clean with a damp cloth if required.

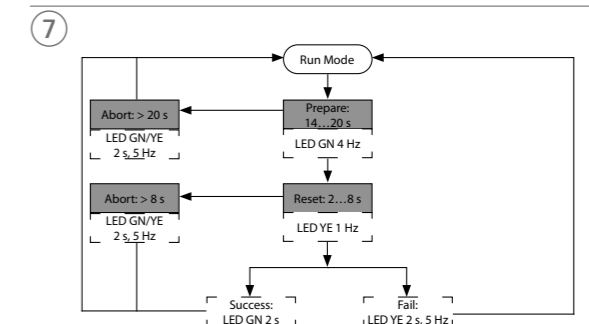
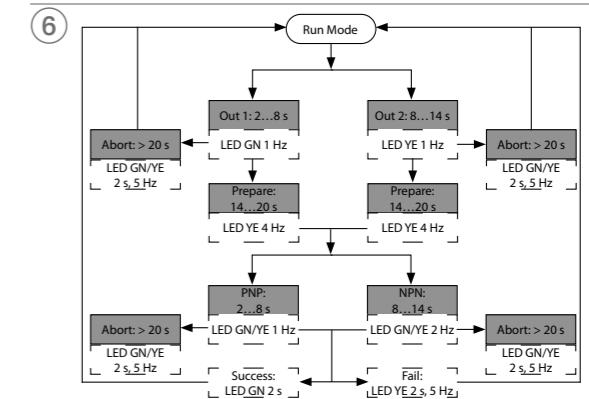
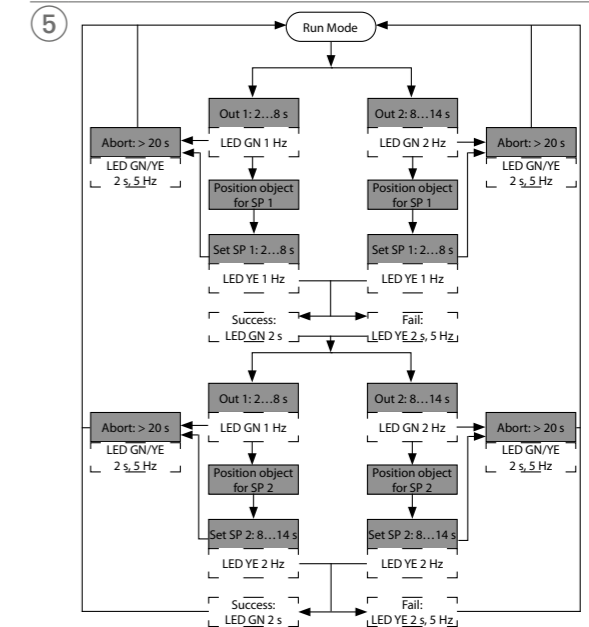
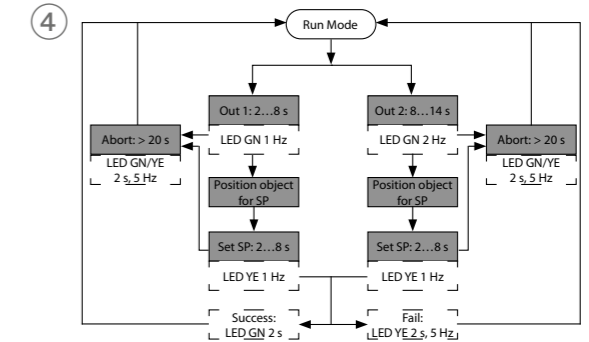
Repair

The device must be decommissioned if it is faulty. The device may only be repaired by Turck. Observe our return acceptance conditions when returning the device to Turck.

Disposal

The devices must be disposed of correctly and must not be included in general household garbage.

Flow charts – setting



Technical data

Measuring range	DR15S...: 0.35...15 m
Blind zone s_{min}	350 mm
Frequency range	122...123 GHz
Resolution	1 mm
Hysteresis	≤ 50 mm
Ambient temperature	-25...+65 °C
Operating voltage	18...33 V (SELV/PELV)
Power consumption	Max. 19 W (3 W internal, 16 W external)
Readiness delay	450 ms
Output 1	Switching output or IO-Link
Output 2	Switching or analog output
Rated operational current	≤ 250 mA
Type of protection	IP67, IP69K (UL: Type 1)
Weight	255 g
Electromagnetic compatibility (EMC)	EN 61000-6-2:2019 ETSI EN 301489-3 V1.6.1
Air humidity	0...99 % rel.

Declaration of conformity

Hiermit erklärt die Hans Turck GmbH & Co. KG, dass die Radar-Abstandssensoren der Baureihe DR... der Richtlinie 2014/53/EU und den Radio Equipment Regulations 2017 entsprechen. Der vollständige Text der EU/UK-Konformitätserklärung ist unter der folgenden Internetadresse verfügbar: www.turck.com

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FCC digital device limitations

FCC ID: YQ7-DRXXX-M30E

This device complies with Part 15 of the FCC Rules standard(s).

Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Radiofrequency radiation exposure Information:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance of 20 cm between the radiator and your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Détecteurs de distance radar DR...

Documents supplémentaires

Vous trouverez les documents suivants contenant des informations complémentaires à la présente notice sur notre site Web www.turck.com :

- Fiche technique
- Mode d'emploi
- Paramètres IO-Link
- Guide de mise en service IO-Link
- Déclarations de conformité
- Homologations

Pour votre sécurité

Utilisation conforme

Les détecteurs de distance radar de la série DR... détectent sans contact la présence d'objets dans la plage de détection et mesurent la distance avec ces objets. Si plusieurs objets se trouvent dans la plage de détection, l'objet le plus proche du détecteur est détecté. La plage de détection et la détection d'objet peuvent être paramétrées à l'aide des réglages de filtre et des configurations du détecteur.

Les appareils doivent exclusivement être utilisés conformément aux indications figurant dans la présente notice. Toute autre utilisation est considérée comme non conforme. La société Turck décline toute responsabilité en cas de dommages causés par une utilisation non conforme.

Consignes de sécurité générales

- Seul un personnel qualifié est habilité à monter, installer, utiliser, paramétrer et effectuer la maintenance de l'appareil.
- L'appareil ne peut pas être utilisé à des fins de protection des personnes ou des machines.
- La puissance de transmission maximale du détecteur ne dépasse pas les limites admissibles selon ETSI EN 305550-2 et FCC/CFR. 47 Part 15.

Remarques concernant l'homologation UL

- L'appareil doit être alimenté par un bloc d'alimentation de classe 2 ou par une alimentation électrique à tension/courant limités.
- Les détecteurs radar doivent être utilisés avec un ensemble de câbles/connecteurs homologués (CYJV/7 ou CYJV2/8) d'une valeur nominale d'au moins 36 VDC et d'au moins 270 mA, adapté à l'utilisation dans l'installation finale.

Description du produit

Aperçu de l'appareil

Voir fig. 1 : Vue de l'appareil, fig. 2 : Dimensions

Fonctions et modes de fonctionnement

Type	Sortie
DR...-IOL8...	1 sortie de commutation (PNP/NPN/Auto) et 1 sortie de commutation (PNP/NPN/Auto) ou 1 sortie analogique (I/U/Auto)
DR...-2UPN...	2 sorties de commutation (PNP/NPN/auto)

L'appareil mesure la distance entre l'objet détecté et l'extrémité du boîtier de détecteur. Un point de commutation unique ou une fonction de fenêtre peuvent être définis pour les sorties de commutation. La plage de mesure de la sortie analogique peut être réglée librement dans les limites de la plage de mesure. Au niveau des sorties, l'appareil fournit des signaux analogiques ou de commutation selon la version. En outre, la valeur de la mesure est envoyée au niveau de commande supérieur via les données de processus IO-Link. La valeur de distance est transférée en m via les données du processus. L'appareil peut être configuré via IO-Link ou la fonction Teach.

Montage

Lors du montage, il n'est pas nécessaire de tenir compte de la courbure de la lentille. Le détecteur détecte l'objet le plus proche du détecteur et affiche la distance. Les réflexions d'objet peuvent être filtrées à l'aide des paramètres du détecteur.

Selon le cas d'utilisation, les détecteurs peuvent être montés dans l'orientation de votre choix. L'onde radar se propage perpendiculairement à la surface de la lentille du radar. Vous trouverez l'angle de divergence dans le tableau suivant :

Type	Angle de divergence
DR...S...	± 7,5°

Le couple de serrage maximal lors de la fixation du détecteur s'élève à 75 Nm.

- ▶ Montez le détecteur à l'emplacement prévu. Prenez en compte la zone morte s_{min} dans laquelle les objets ne peuvent pas être détectés (voir les données techniques).
- ▶ Montez le détecteur de manière à ce qu'aucun objet étranger ne se trouve dans la plage de détection (voir fig. 3).

Raccordement

- ▶ Raccordez l'appareil conformément aux schémas de câblage (« Wiring diagrams »).

Mise en service

L'appareil se met automatiquement en marche après le raccordement des câbles et l'activation de la tension d'alimentation.

Fonctionnement

Affichage LED

LED	Signification
Jaune	Contact N.O. : objet dans la zone d'apprentissage, sortie de commutation 1 allumée Contact à ouverture : aucun objet dans la zone d'apprentissage, sortie de commutation 1 allumée
Vert	Contact N.O. : objet dans la zone de détection, mais pas dans la zone d'apprentissage, sortie de commutation 1 éteinte Contact N.C. : objet dans la zone Teach, sortie de commutation 1 éteinte
Éteint (seulement le contact à fermeture)	Aucun objet dans la zone de détection, sortie de commutation 1 éteinte
Clignote vert	Mode IO-Link actif

Réglages et paramétrages

Apprentissage des appareils :

- Pont manuel (court-circuiter) : Court-circuitez la broche 1 avec la broche 4.
- Une fois le processus Teach réussi, les appareils passent automatiquement en mode normal.

Le paramétrage via IO-Link est décrit dans le guide de mise en service IO-Link.

Si l'apprentissage est réussi, la LED s'allume en vert pendant 2 s. Si l'apprentissage échoue, la LED clignote en jaune pendant 2 s à une fréquence de 5 Hz.

Sélection de la sortie

- ▶ Sortie de commutation 1 : Court-circuitez la broche 1 pendant 2...7 s avec la broche 4.
- ▶ Sortie 2 : Court-circuitez la broche 1 pendant 8...14 s avec la broche 4.

Réglage du point de commutation unique (fig. 4)

- ▶ Sélection de la sortie.
- ▶ Positionnez l'objet pour le point de commutation dans la plage de détection.
- ▶ En l'espace de 30 s, court-circuitez la broche 1 pendant 2...8 s avec la broche 4.

Régler la fenêtre de commutation (fig. 5)

- ▶ Sélection de la sortie.
- ▶ Positionnez l'objet pour le 1er point de commutation dans la zone de détection.
- ▶ En l'espace de 30 s, court-circuitez la broche 1 pendant 2...8 s avec la broche 4.
- ▶ Sélectionnez à nouveau la sortie.
- ▶ Positionnez l'objet pour le 2e point de commutation dans la zone de détection.
- ▶ En l'espace de 30 s, court-circuitez la broche 1 pendant 8...14 s avec la broche 4.

Régler la fonction de sortie (fig. 6)

- ▶ Sélection de la sortie.
- ▶ En l'espace de 30 s, court-circuitez la broche 1 pendant 14...20 s avec la broche 4.
- ▶ Sortie PNP : Court-circuitez la broche 1 pendant 2...8 s avec la broche 4.
- ▶ Sortie NPN : Court-circuitez la broche 1 pendant 8...14 s avec la broche 4.

Réinitialisation aux réglages d'usine (fig. 7)

- ▶ Démarrez la réinitialisation : Court-circuitez la broche 1 pendant 14...20 s avec la broche 4.
- ▶ Confirmez la réinitialisation : En l'espace de 30 s, court-circuitez la broche 1 pendant 2...8 s avec la broche 4.

Entretien

L'appareil ne nécessite pas d'entretien, nettoyez-le avec un chiffon humide si nécessaire.

Réparation

En cas de dysfonctionnement, mettez l'appareil hors tension. Seul Turck est habilité à réparer l'appareil. En cas de retour à Turck, veuillez respecter les conditions de reprise.

Mise au rebut

Les appareils doivent être mis au rebut de manière appropriée et ne peuvent être jetés avec les ordures ménagères.

①

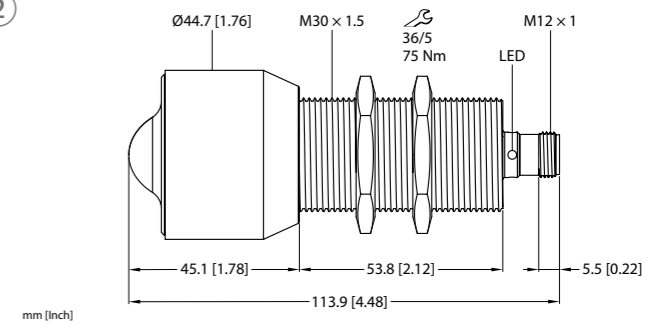


DR...
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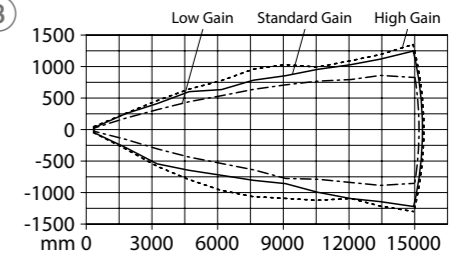
Additional
information see



②



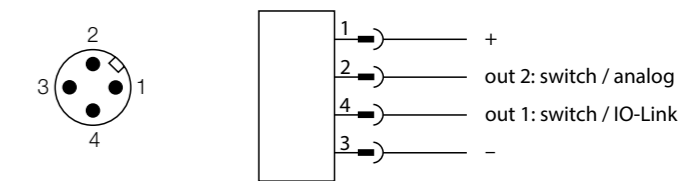
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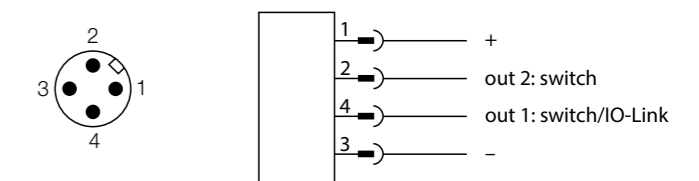
DR15S...

Wiring diagrams

DR...IOL8X2



DR...2UPN...



Données techniques

Plage de mesure	DR15S... : 0,35...15 m
Zone morte s_{min}	350 mm
Plage de fréquence	122...123 GHz
Résolution	1 mm
Hystérésis	≤ 50 mm
Température ambiante	-25...+65 °C
Tension de service	18...33 V (SELV/PELV)
Puissance absorbée	19 W max. (3 W interne, 16 W externe)
Retard à la disponibilité	450 ms
Sortie 1	Sortie de commutation ou mode IO-Link
Sortie 2	Sortie logique et analogique
Courant de service nominal	< 250 mA
Indice de protection	IP67, IP69K (UL: Type 1)
Poids	255 g
Compatibilité électromagnétique (CEM)	EN 61000-6-2:2019 ETSI EN 301489-3 V1.6.1
Humidité de l'air	0...99 % rel.

Declaration of conformity

Hiermit erklärt die Hans Turck GmbH & Co. KG, dass die Radar-Abstandssensoren der Baureihe DR... der Richtlinie 2014/53/EU und den Radio Equipment Regulations 2017 entsprechen. Der vollständige Text der EU/UK-Konformitätserklärung ist unter der folgenden Internetadresse verfügbar: www.turck.com

Hereby, Hans Turck GmbH & Co. KG declares that the radar distance sensors series DR... are in compliance with Directive 2014/53/EU and Radio Equipment Regulations 2017. The full text of the EU/UK declaration of conformity is available at the following internet address: www.turck.com

FCC digital device limitations

FCC ID: YQ7-DRXXX-M30E

This device complies with Part 15 of the FCC Rules standard(s).

Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Radiofrequency radiation exposure Information:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance of 20 cm between the radiator and your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Sensores de distancia por radar DR...

Documentos adicionales

Además de este documento, se puede encontrar el siguiente material en Internet en www.turck.com:

- Hoja de datos
- Instrucciones de funcionamiento
- Parámetros de IO-Link
- Manual de puesta en marcha de IO-Link
- Declaraciones de conformidad
- Aprobaciones

Para su seguridad

Uso correcto

Los sensores de distancia por radar de la serie DR... detectan la presencia de objetos y mide la distancia a estos sin contacto. Si hay múltiples objetos en el rango de detección, se detecta el objeto más cercano al sensor. Se pueden ajustar el rango de detección y la detección de objetos mediante ajustes de filtros y configuraciones del sensor. Los dispositivos solo se deben usar como se describe en estas instrucciones. Ninguna otra forma de uso corresponde al uso previsto. Turck no se responsabiliza de los daños derivados de dichos usos.

Instrucciones generales de seguridad

- Solo personal capacitado profesionalmente puede montar, instalar, operar, parametrizar y dar mantenimiento al dispositivo.
- No utilice el dispositivo para la protección de personas o máquinas.
- La salida de la transmisión máxima del sensor está dentro de los valores límite aprobados que se especifican en ETSI EN 305550-2 y FCC/CFR. 47 Part 15.

Notas sobre la aprobación UL

- El dispositivo debe recibir alimentación de una unidad de fuente de alimentación de clase 2 o una fuente de alimentación con voltaje o corriente limitados.
- Se deben utilizar los sensores de radar con un módulo de cable o conector registrados (CYJV/7 o CYJV2/8) con un valor nominal de al menos 36 V CC y 270 mA, que es adecuado para la aplicación en la instalación final.

Descripción del producto

Descripción general del dispositivo

Consulte la Imagen 1: Vista del dispositivo, Imagen 2: Dimensiones.

Funciones y modos de operación

Tipo	Salida
DR...-IOL...	1 salida de conmutación (PNP/NPN/Auto), así como 1 salida de conmutación (PNP/NPN/Auto) o 1 salida analógica (I/U/Auto)
DR...-2UPN...	2 salidas de conmutación (PNP/NPN/Auto)

El dispositivo mide la distancia entre el objeto detectado y el final de la carcasa del sensor. Se puede establecer una función de ventana o un punto de conmutación único para las salidas de conmutación. El rango de medición de la salida analógica se puede definir según sea necesario dentro de los límites del rango de medición. El dispositivo proporciona señales analógicas o de conmutación en las salidas en función del tipo. El valor medido también se envía a través de los datos de proceso de IO-Link al nivel de control más alto. El valor de la distancia se transfiere en m a través de los datos del proceso.

Se pueden establecer los parámetros de los dispositivos mediante IO-Link y la función de aprendizaje.

Instalación

No se debe tener en cuenta la curvatura de la lente para la instalación. El sensor detecta el objeto más cercano y genera la distancia. Las reflexiones de objetos se pueden filtrar utilizando los parámetros del sensor.

Los sensores se pueden instalar en cualquier alineación de acuerdo con los requisitos de la aplicación. La onda del radar se propaga perpendicularmente a la superficie de la lente del radar. Consulte la siguiente tabla para conocer el ángulo de apertura:

Tipo	Ángulo de apertura
DR...S-...	± 7,5°

El par de apriete máximo para fijar el sensor es de 75 Nm.

- ▶ Instale el sensor en la ubicación de montaje deseada. Observe los s_{min} de la zona ciega, en la que no es posible detectar objetos (consulte los datos técnicos).
- ▶ Instale el sensor de tal manera que no haya objetos extraños en el rango de medición (consulte la Imagen 3).

Conexión

- ▶ Conecte el dispositivo como se muestra en "Wiring diagrams".

Puesta en marcha

El dispositivo se pondrá automáticamente en funcionamiento una vez que se conecten los cables y se encienda la fuente de alimentación.

Funcionamiento

Indicaciones LED

LED	Significado
Amarillo	Contacto NO: Objeto en el rango de programación, se enciende la salida de conmutación 1 Contacto NC: No hay objetos en el rango de programación, se enciende la salida de conmutación 1
Verde	Contacto NO: Objeto en el rango de detección, pero no en el rango de programación, se apaga la salida de conmutación 1 Contacto NC: Objeto dentro del rango de programación, se apaga la salida de conmutación 1
Apagado (solo contacto NO)	No hay objetos dentro de la zona de detección, se apaga la salida de conmutación 1
Verde intermitente	Modo IO-Link activo

Configuración y parametrización

Programa los dispositivos de la siguiente manera:

- Puente manual (cortocircuito): Cortocircuito en el polo 1 con el polo 4.

Una vez que el evento de programación se completa correctamente, los dispositivos cambian automáticamente al funcionamiento normal.

La configuración de parámetros mediante IO-Link se explica en el manual de puesta en marcha de IO-Link.

El LED se ilumina en verde durante 2 s si se realizó la operación de programación correctamente. Si una operación de programación no se realizó correctamente, el LED parpadea en amarillo durante 2 s a una frecuencia de 5 Hz.

Selección de la salida

- ▶ Salida de conmutación 1: Cortocircuito en polo 1 con polo 4 de 2 a 7 s.
- ▶ Salida 2: Cortocircuito en polo 1 con polo 4 de 8 a 14 s.

Establecimiento del punto de conmutación único (Imagen 4)

- ▶ Seleccione la salida.
- ▶ Coloque el objeto para el punto de conmutación en el rango de detección.
- ▶ Cortocircuito en polo 1 con polo 4 de 2 a 8 s dentro de 30 s.

Establecimiento de la ventana de conmutación (Imagen 5)

- ▶ Seleccione la salida.
- ▶ Coloque el objeto para el punto de conmutación 1 en el rango de detección.
- ▶ Cortocircuito en polo 1 con polo 4 de 2 a 8 s dentro de 30 s.
- ▶ Vuelva a seleccionar la salida.
- ▶ Coloque el objeto para el punto de conmutación 2 en el rango de detección.
- ▶ Cortocircuito en polo 1 con polo 4 de 8 a 14 s dentro de 30 s.

Establecimiento de la función de salida (Imagen 6)

- ▶ Seleccione la salida.
- ▶ Cortocircuito en polo 1 con polo 4 de 14 a 20 s dentro de 30 s.
- ▶ Salida PNP: Cortocircuito en polo 1 con polo 4 de 2 a 8 s.
- ▶ Salida NPN: Cortocircuito en polo 1 con polo 4 de 8 a 14 s.

Restablecimiento de los ajustes de fábrica (Imagen 7)

- ▶ Inicie el restablecimiento: Cortocircuito en polo 1 con polo 4 de 14 a 20 s.
- ▶ Presione Restablecer: Cortocircuito en polo 1 con polo 4 de 2 a 8 s dentro de 30 s.

Mantenimiento

El dispositivo no necesita mantenimiento. Limpie con un paño húmedo, si es necesario.

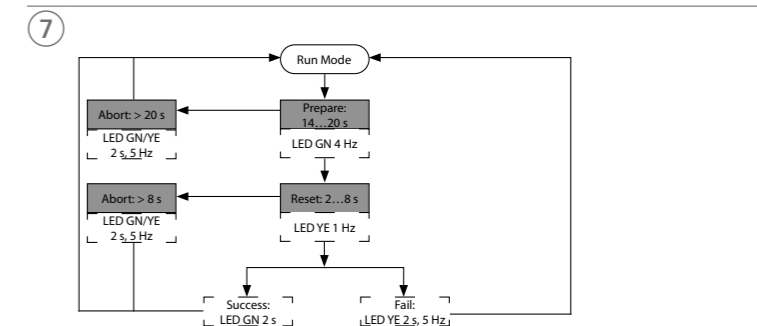
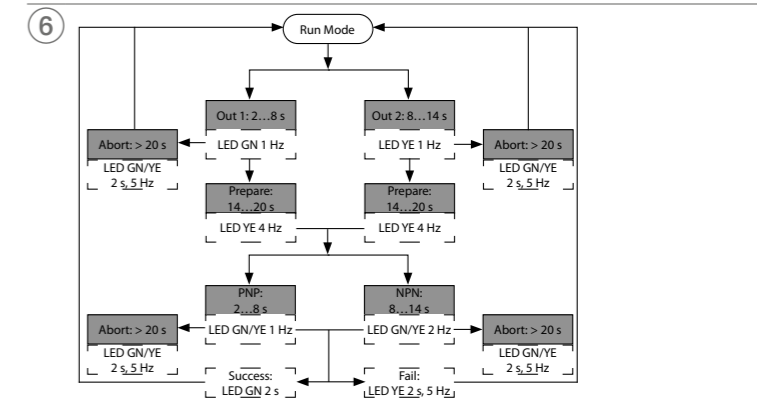
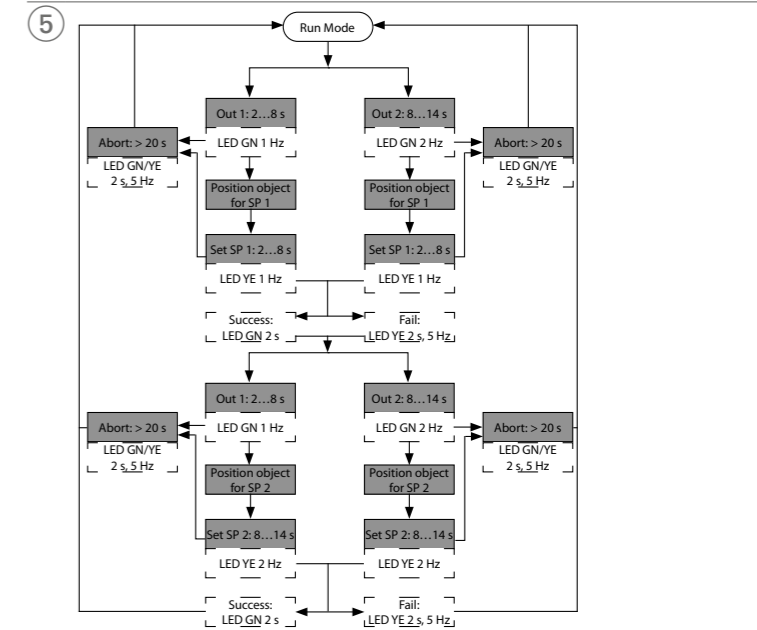
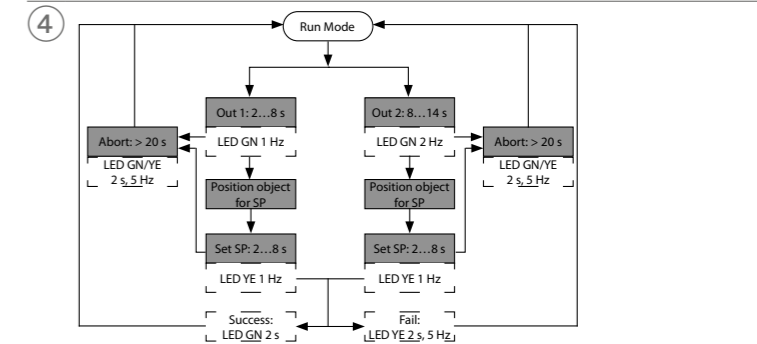
Reparación

El dispositivo se debe desinstalar si presenta fallas. El dispositivo solo puede ser reparado por Turck. Consulte nuestras políticas de devolución cuando devuelva el dispositivo a Turck.

Eliminación de desechos

Los dispositivos se deben desechar correctamente y no se deben mezclar con desechos domésticos normales.

Flow charts – setting



Datos técnicos

Rango de medición	DR15S...: De 0,35 a 15 m
s_{min} de zona ciega	350 mm
Rango de frecuencias	De 122 a 123 GHz
Resolución	1 mm
Histéresis	≤50 mm
Temperatura ambiente	De -25 a +65 °C
Voltaje de funcionamiento	De 18 a 33 V (SELV/PELV)
Consumo de potencia	Máximo de 19 W (3 W interno, 16 W externo)
Retardo de disponibilidad	450 ms
Salida 1	Salida de conmutación o IO-Link
Salida 2	Salida de conmutación o analógica
Corriente de funcionamiento nominal	≤250 mA
Grado de protección	IP67, IP69K (UL: tipo 1)
Peso	255 g
Compatibilidad electromagnética (CEM)	EN 61000-6-2:2019 ETSI EN 301489-3 V1.6.1
Humedad del aire	De 0 a 99 % rel.

Declaration of conformity

Hiermit erklärt die Hans Turck GmbH & Co. KG, dass die Radar-Abstandssensoren der Baureihe DR... der Richtlinie 2014/53/EU und den Radio Equipment Regulations 2017 entsprechen. Der vollständige Text der EU/UK-Konformitätserklärung ist unter der folgenden Internetadresse verfügbar: www.turck.com

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FCC digital device limitations

FCC ID: YQ7-DRXXX-M30E

This device complies with Part 15 of the FCC Rules standard(s).

Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Radiofrequency radiation exposure Information:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance of 20 cm between the radiator and your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

ZH 快速入门指南

DR... 雷达距离传感器

其他文档

除了本文档之外,还可在www.turck.com.cn网站上查看以下材料:

- 数据表
- 使用说明
- IO-Link参数
- IO-Link调试手册
- 合规声明
- 认证

安全须知

预期用途

DR... 系列雷达距离传感器可探测物体的存在并测量与这些物体之间的距离,而无需接触物体。如果探测范围内有多个物体,则探测最靠近传感器的物体。探测范围和物体探测可通过过滤器设置和传感器配置进行调整。

必须严格按照这些说明使用该装置。任何其他用途都不属于预期用途。图尔克公司不会对此导致的任何损坏承担责任。

一般安全须知

- 该装置的组装、安装、操作、参数设定和维护只能由经过专业培训的人员执行。
- 请勿将该装置用于人员或机器的保护。
- 依据ETSI EN 305550-2和FCC/CFR 47第15部分,该传感器的最大传输输出处于指定限值内。

UL认证说明

- 该装置必须由2级供电单元或电压/电流受限的电源供电。
- 雷达传感器必须与列出的(CYJV/7或CYJV2/8)线缆/连接器模块一起使用,后者的额定值至少为36 VDC和270 mA,并适合最终安装中的使用。

产品描述

装置概览

见图1:装置视图,图2:尺寸

产品功能和工作模式

类型	输出
DR...-IOL...	1路开关量输出(PNP/NPN/自动)以及1路开关量输出(PNP/NPN/自动)或1路模拟量输出(I/U/自动)
DR...-2UPN...	2路开关量输出(PNP/NPN/自动)

该装置测量探测到的物体与传感器外壳末端之间的距离。可以为开关输出设置单个开关点或窗口功能。可根据需要在测量范围限值内定义模拟输出的测量范围。该装置可在输出端提供模拟或开关信号,具体取决于型号。测量值也可通过IO-Link过程数据技术发送到更高控制级别。距离值通过过程数据以m为单位传输。可通过IO-Link和示教功能设置装置参数。

技术数据

测量范围	DR15S...: 0.35...15 m
盲区s _{min}	350 mm
频率范围	122...123 GHz
分辨率	1 mm
迟滞	≤ 50 mm
环境温度	-25...+65 °C
工作电压	18...33 V (SELV/PELV)
功耗	最大19 W (3 W内部功耗, 16 W外部功耗)
正常延迟	450 ms
输出1	开关输出或IO-Link
输出2	开关或模拟量输出
额定工作电流	≤ 250 mA
保护类型	IP67、IP69K (UL: 1型)
重量	255 g
电磁兼容性(EMC)	EN 61000-6-2:2019 ETSI EN 301489-3 V1.6.1
空气湿度	0...99 % (相对值)

安装

安装时不必考虑透镜曲率。传感器探测离传感器最近的物体并输出距离值。可使用传感器参数滤掉物体反射。可根据应用要求以任何对齐方式安装传感器。雷达波垂直于雷达透镜表面传播。请参阅下表了解开度角:

类型	开度角
DR...S-...	± 7.5°

固定传感器时,最大拧紧扭矩为75 Nm。

- ▶ 将传感器安装在预定的安装位置。观察盲区s_{min},在其中无法探测物体(参见技术数据)。
- ▶ 安装传感器时,应确保在测量范围内无异物(参见图3)。

连接

- ▶ 按照“Wiring diagrams”连接该装置。

调试

一旦连接线缆并接通电源,该装置将自动运行。

运行

LED指示灯

LED	含义
黄色	常开触点:物体处于示教范围内,开关量输出1打开 常闭触点:物体未处于示教范围内,开关量输出1打开
绿色	常开触点:物体处于探测范围内,但未处于示教范围内,开关量输出1关闭 常闭触点:物体处于示教范围内,开关量输出1关闭
关闭 (仅限常开触点)	没有物体处于探测范围内,开关量输出1关闭
呈绿色闪烁	IO-Link模式激活

设置和参数设定

按以下方式对装置进行示教:

- 手动桥接(短路):针脚1与针脚4间短路。

成功完成示教流程后,装置将自动切换至正常工作状态。

IO-Link调试手册中介绍了通过IO-Link进行参数设置的方法。

如果示教操作成功,LED指示灯将呈绿色亮起2 s。如果示教操作不成功,LED指示灯将以5 Hz的频率呈黄色闪烁2 s。

选择输出

- ▶ 开关量输出1:针脚1与针脚4间短路2...7 s。
- ▶ 输出2:针脚1与针脚4间短路8...14 s。

设置单个开关点(图4)

- ▶ 选择输出。
- ▶ 为探测范围内的开关点放置物体。
- ▶ 在30 s内,针脚1与针脚4间短路2...8 s。

将开关窗口(图5)

- ▶ 选择输出。
- ▶ 为探测范围内的开关点1放置物体。
- ▶ 在30 s内,针脚1与针脚4间短路2...8 s。
- ▶ 重新选择输出。
- ▶ 为探测范围内的开关点2放置物体。
- ▶ 在30 s内,针脚1与针脚4间短路8...14 s。

设置输出功能(图6)

- ▶ 选择输出。
- ▶ 在30 s内,针脚1与针脚4间短路14...20 s。
- ▶ PNP输出:针脚1与针脚4间短路2...8 s。
- ▶ NPN输出:针脚1与针脚4间短路8...14 s。

重置为出厂设置(图7)

- ▶ 开始重置:针脚1与针脚4间短路14...20 s。
- ▶ 按下重置:在30 s内,针脚1与针脚4间短路2...8 s。

维护

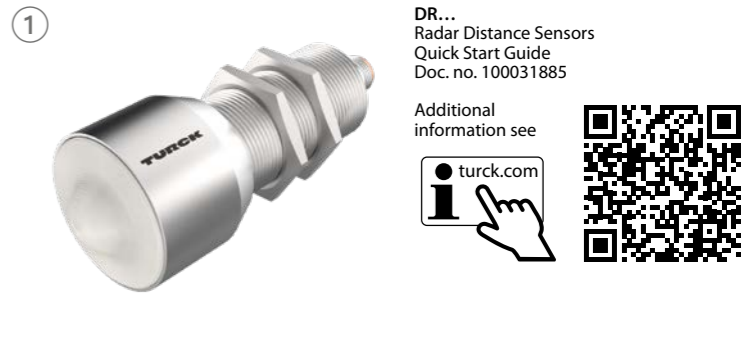
该装置免维护。如果需要,可用湿布进行清洁。

维修

如果出现故障,必须停用该装置。该装置只能由图尔克公司进行维修。如果要将该装置送还给图尔克公司维修,请遵从我们的返修验收条件。

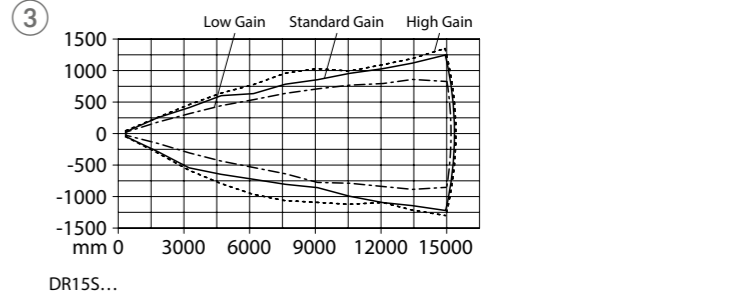
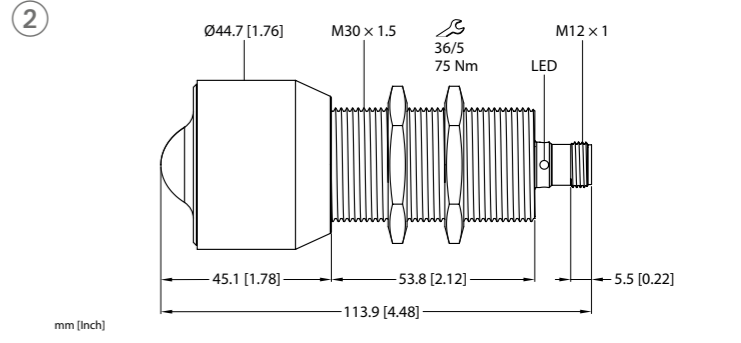
废弃处理

 必须正确地弃置该装置,不得混入普通生活垃圾中丢弃。

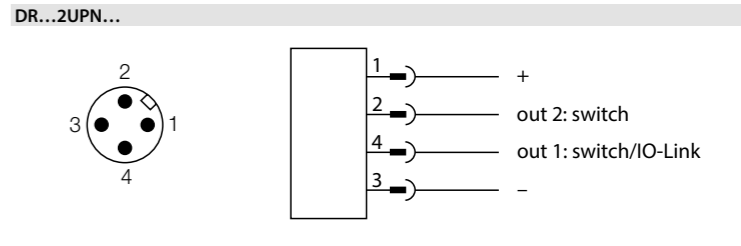
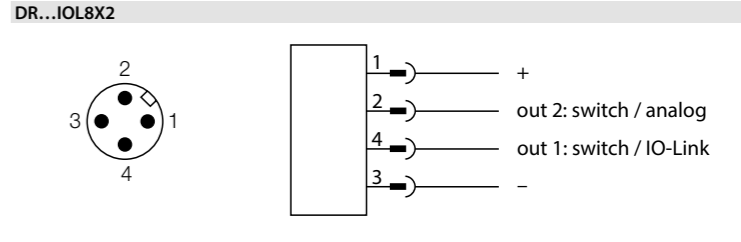


DR...
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Additional
information see



Wiring diagrams



Declaration of conformity

Hiermit erklärt die Hans Turck GmbH & Co. KG, dass die Radar-Abstandssensoren der Baureihe DR... der Richtlinie 2014/53/EU und den Radio Equipment Regulations 2017 entsprechen. Der vollständige Text der EU/UK-Konformitätserklärung ist unter der folgenden Internetadresse verfügbar: www.turck.com

Hereby, Hans Turck GmbH & Co. KG declares that the radar distance sensors series DR... are in compliance with Directive 2014/53/EU and Radio Equipment Regulations 2017. The full text of the EU/UK declaration of conformity is available at the following internet address: www.turck.com

FCC digital device limitations

FCC ID: YQ7-DRXXX-M30E

This device complies with Part 15 of the FCC Rules standard(s).

Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Radiofrequency radiation exposure Information:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance of 20 cm between the radiator and your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

KO 빠른 시작 가이드

DR... 레이더 거리 센서

추가 문서

이 문서 외에도 다음과 같은 자료를 인터넷(www.turck.com)에서 확인할 수 있습니다.

- 데이터 시트
- 사용 지침
- IO-Link 매개 변수
- IO-Link 시운전 매뉴얼
- 적합성 선언
- 인증

사용자 안전 정보

사용 목적

DR... 시리즈 레이더 거리 센서는 물체의 존재를 감지하고 접촉 없이 물체와의 거리를 측정합니다. 감지 범위에 여러 물체가 있는 경우 센서에 가장 가까운 물체가 감지됩니다. 감지 범위 및 물체 감지는 필터 설정 및 센서 구성을 통해 조정할 수 있습니다.

이 장치는 이 지침에서 설명한 목적으로만 사용해야 합니다. 기타 다른 방식으로 사용하는 것은 사용 목적을 따르지 않는 것입니다. 터크는 그로 인한 손상에 대해 어떠한 책임도 지지 않습니다.

일반 안전 지침

- 전문적인 훈련을 받은 숙련된 기술자만이 이 장치의 조립, 설치, 작동, 매개 변수 설정 및 유지 보수를 수행해야 합니다.
- 사람이나 장비를 보호하는 용도로 장치를 사용하지 마십시오.
- 센서의 최대 전송 출력은 ETSI EN 305550-2 및 FCC/CFR에 지정된 승인된 한계값 내에 있습니다. 47 파트 15.

UL 인증 참고 사항

- 이 장치는 클래스 2 파워 서플라이 유닛 또는 전압/전류가 한정된 파워 서플라이로 전원을 공급해야 합니다.
- 레이더 센서는 최종 설치에 적합한 최소 정격 깊이 36 VDC 및 270 mA인 등록(CYJV/7 또는 CYJV2/8) 케이블/커넥터 모듈과 함께 사용해야 합니다.

제품 설명

장치 개요

그림 1 참조: 장치 도면, 그림 2: 치수

기능 및 작동 모드

타입	출력
DR...-IOL...	1 × 스위칭 출력(PNP/NPN/자동) 및 1 × 스위칭 출력(PNP/NPN/자동) 또는 1 x 아날로그 출력(I/U/자동)
DR...-2UPN...	2 × 스위칭 출력(PNP/NPN/자동)

장치는 감지된 물체와 센서 하우징 엔드 사이의 거리를 측정합니다. 단일 스위칭 포인트 또는 원도우 기능을 스위칭 출력으로 설정할 수 있습니다. 아날로그 출력의 측정 범위는 필요에 따라 측정 범위 한계 내에서 정의할 수 있습니다. 장치는 타입에 따라 출력에서 아날로그 또는 스위칭 신호를 제공합니다. 측정된 값은 IO-Link 프로세스 데이터를 통해 상위 제어 레벨로도 전송됩니다. 거리 값은 프로세스 데이터를 통해 m 단위로 전송됩니다.

장치 매개 변수는 IO-Link 및 터치인 기능을 통해 설정할 수 있습니다.

설치

렌즈 곡률은 설치 시 고려할 필요가 없습니다. 센서는 센서와 가장 가까운 물체를 감지하여 거리를 출력합니다. 물체 반사는 센서 매개 변수를 사용하여 필터링될 수 있습니다.

이 센서는 애플리케이션 요구 사항에 따라 어떤 정렬에도 설치할 수 있습니다. 레이더 파동은 레이더 렌즈 표면에 수직으로 전파됩니다. 개구 각도는 다음 표를 참조하십시오.

타입	개구 각도
DR...S-...	±7.5°

센서 장착 시 최대 조임 토크는 75 Nm입니다.

- 센서를 원하는 장착 위치에 설치합니다. 물체를 감지할 수 없는 블라인드 존 s_{min}을 준수하십시오(기술 데이터 참조).
- 측정 범위에 이물질이 없도록 센서를 장착하십시오(그림 3 참조).

연결

- "Wiring diagrams"에 따라 장치를 연결하십시오.

시운전

케이블이 연결되고 파워 서플라이가 켜지면 장치가 자동으로 작동 가능해집니다.

작동

LED 표시기

LED	의미
황색	NO 접점: 터치인 범위에 있는 물체, 스위칭 출력 1 켜기 NC 접점: 터치인 범위에 없는 물체, 스위칭 출력 1 켜기
녹색	NO 접점: 감지 범위 내에 있지만 터치인 범위에 없는 물체, 스위칭 출력 1 끄기 NC 접점: 터치인 범위에 있는 물체, 스위칭 출력 1 끄기
꺼짐(NO 접점만 해당)	감지 범위 내에 없는 물체, 스위칭 출력 1 끄기
녹색 점멸	IO-Link 모드 활성화

설정 및 매개 변수화

장치를 다음과 같이 터치인합니다.

- 수동 브릿지 연결(단락): 핀 1과 핀 4 단락

터치인 프로세스가 성공적으로 완료되면 장치가 정상 작동으로 자동 전환됩니다.

IO-Link를 통한 매개 변수 설정은 IO-Link 시운전 매뉴얼에 설명되어 있습니다.

터치인 작업이 성공하면 LED가 녹색으로 2초 동안 켜집니다. 터치인 작업이 실패하면 LED가 황색으로 5 Hz의 주파수로 2초간 점멸합니다.

출력 선택

- 스위칭 출력 1: 2...7초간 핀 1과 핀 4 단락
- 출력 2: 8...14초간 핀 1과 핀 4 단락

단일 스위칭 포인트 설정(그림 4)

- 출력을 선택합니다.
- 감지 범위 내 스위칭 포인트에 물체를 배치합니다.
- 30초 이내에 2...8초간 핀 1과 핀 4를 단락시킵니다.

스위칭 윈도우 설정(그림 5)

- 출력을 선택합니다.
- 감지 범위 내 스위칭 포인트 1에 물체를 배치합니다.
- 30초 이내에 2...8초간 핀 1과 핀 4를 단락시킵니다.
- 출력을 다시 선택합니다.
- 감지 범위 내 스위칭 포인트 2에 물체를 배치합니다.
- 30초 이내에 8...14초간 핀 1과 핀 4를 단락시킵니다.

출력 기능 설정(그림 6)

- 출력을 선택합니다.
- 30초 이내에 14...20초간 핀 1과 핀 4를 단락시킵니다.
- PNP 출력: 2...8초간 핀 1과 핀 4 단락
- NPN 출력: 8...14초간 핀 1과 핀 4 단락

출하 설정으로 재설정(그림 7)

- 재설정 시작: 14...20초간 핀 1과 핀 4 단락
- 재설정 누름: 30초 이내에 2...8초간 핀 1과 핀 4 단락


유지보수

이 장치는 유지보수가 필요하지 않습니다. 필요한 경우 젖은 천으로 닦으십시오.

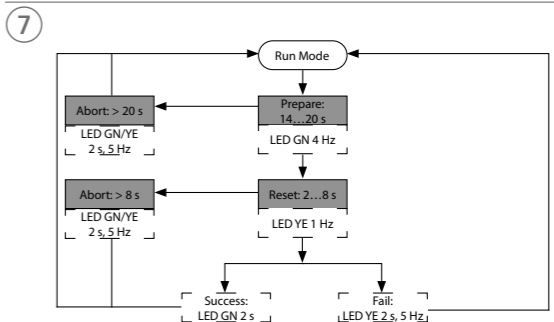
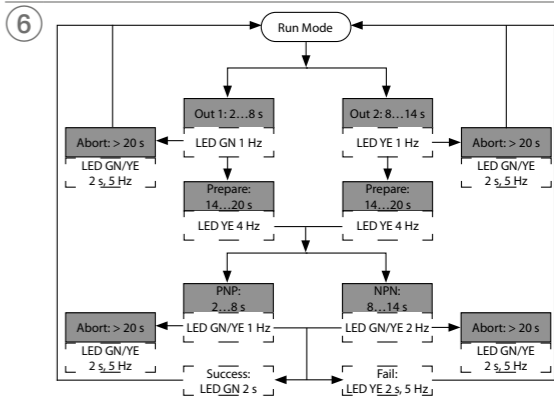
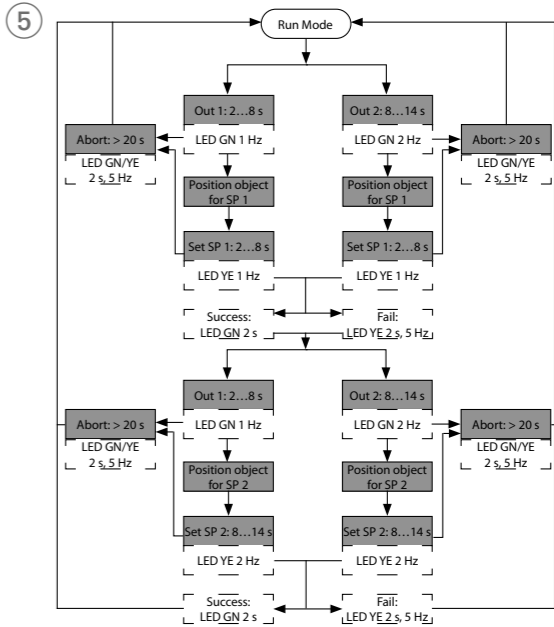
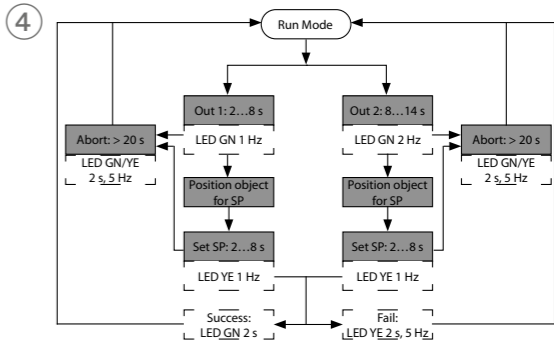
수리

이 장치에 고장이 발생한 경우 설치 해제해야 합니다. 이 장치는 터크에서만 수리할 수 있습니다. 장치를 터크에 반품할 경우, 반품 승인 조건을 준수해 주십시오.

폐기

 이 장치는 올바른 방법으로 폐기해야 하며 일반적인 가정 폐기물과 함께 배출해서는 안 됩니다.

Flow charts – setting



기술 데이터

측정 범위	DR15S...: 0.35...15 m
블라인드 존 s _{min}	350 mm
주파수 범위	122...123 GHz
해상도	1 mm
히스테리시스	≤ 50 mm
주위 온도	-25...+65 °C
작동 전압	18...33 V(SELV/PELV)
전력 소모량	최대 19 W(내부 3 W, 외부 16 W)
준비 지연	450 ms
출력 1	스위칭 출력 또는 IO-Link
출력 2	스위칭 출력 또는 아날로그 출력
정격 작동 전류	≤ 250 mA
보호 타입	IP67, IP69K(UL: 타입 1)
무게	255 g
전자기파 적합성(EMC)	EN 61000-6-2:2019 ETSI EN 301489-3 V1.6.1
공기 습도	0... 99 %(상대)

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FCC digital device limitations

FCC ID: YQ7-DRXXX-M30E

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Operation is subject to the following two conditions:

- this device may not cause harmful interference, and
- this device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

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