HF (13.56 MHz)

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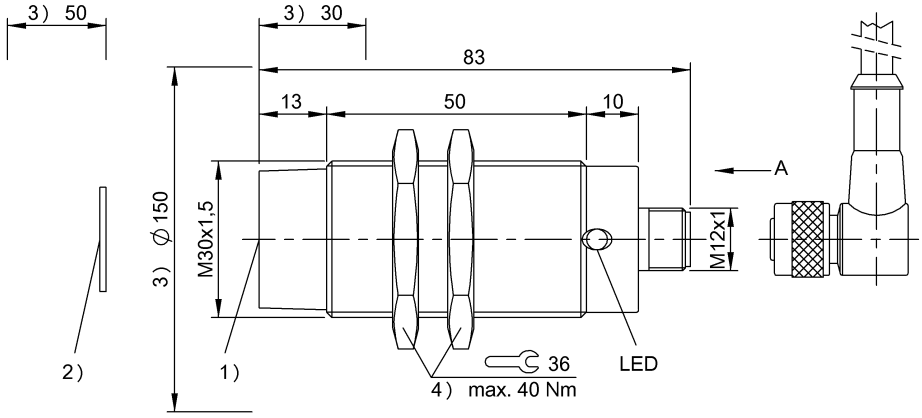

1) Sensing surface, 2) Data carrier, 3) Clear zone, 4) Tightening torque

Basic features

Antenna type	round
Approval/Conformity	CE UKCA cULus FCC IC (Radio) WEEE MIC KC NBTC IMDA
Principle of operation	Read/write device

Display/Operation

Function indicator	Power (ON) Green LED TP (Tag Present) LED yellow

Electrical connection

Connection	(RS232/TP OUT): M12x1-Male, 8-pin

Electrical data

Current consumption max. at 24 V DC	50 mA
Current consumption max., note	no load
Operating voltage Ub	19.2...26.4 VDC
Output current max.	200 mA
Residual ripple max.	included

Environmental conditions

Altitude max.	2000 m
Ambient temperature	0...70 °C
Area of operation	Indoor
Contamination scale	2
Continuous shock load	yes
EN 60068-2-27, Shock	yes
EN 60068-2-32 Free fall	yes
EN 60068-2-6, Vibration	yes
IP rating	IP67
Relative humidity	0…90 %, non-condensing
Storage temperature	-20...85 °C

Functional Characteristics

Supported data carrier types	DIN ISO 14443 DIN ISO 15693

Functional safety

MTTF (40 °C)	191 a

Interface

Interface	RS232
Output TP	PNP

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Material

Housing material	Brass, Nickel-plated brass nuts, nickel-plated
Housing material, surface protection	nickel-plated

Mechanical data

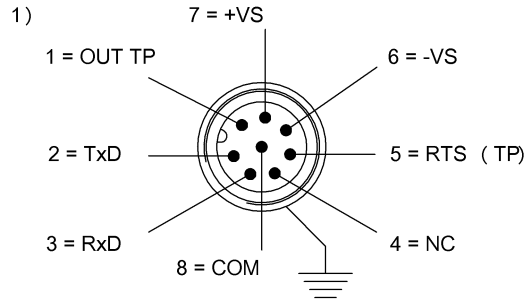
Application weight	100.00 g
Dimension	Ø 30 x 83 mm
Installation	metal-free (clear zone)
Size	M30x1.5

Remarks

For installation in metal: Observe clear zone.
Values are under rated conditions unless otherwise specified.
Use included nuts for installation.
OUT TP switches to +24V when there is a data carrier in the zone.
* Connection RTS (TP) enables TP display in program BISCOMRW.EXE.
For basic equipment: Accessories see www.balluff.com
This device is intended to be supplied by a UL-listed or CSA-certified power supply unit with "Class 2" or LPS power source.
The devices must be installed permanently.
1. Determine a suitable mounting position.
2. Fasten the device with suitable mounting material.
The device can be cleaned with a slightly damp cloth.
Regularly check the function of the device and all associated components through visual and functional tests.
- Shut down the device in the event of malfunctions.
- Secure the system against unauthorized use.
- Check fastening and tighten if necessary.
The product is maintenance-free.
For more information about MTTF and B10d see MTTF / B10d Certificate

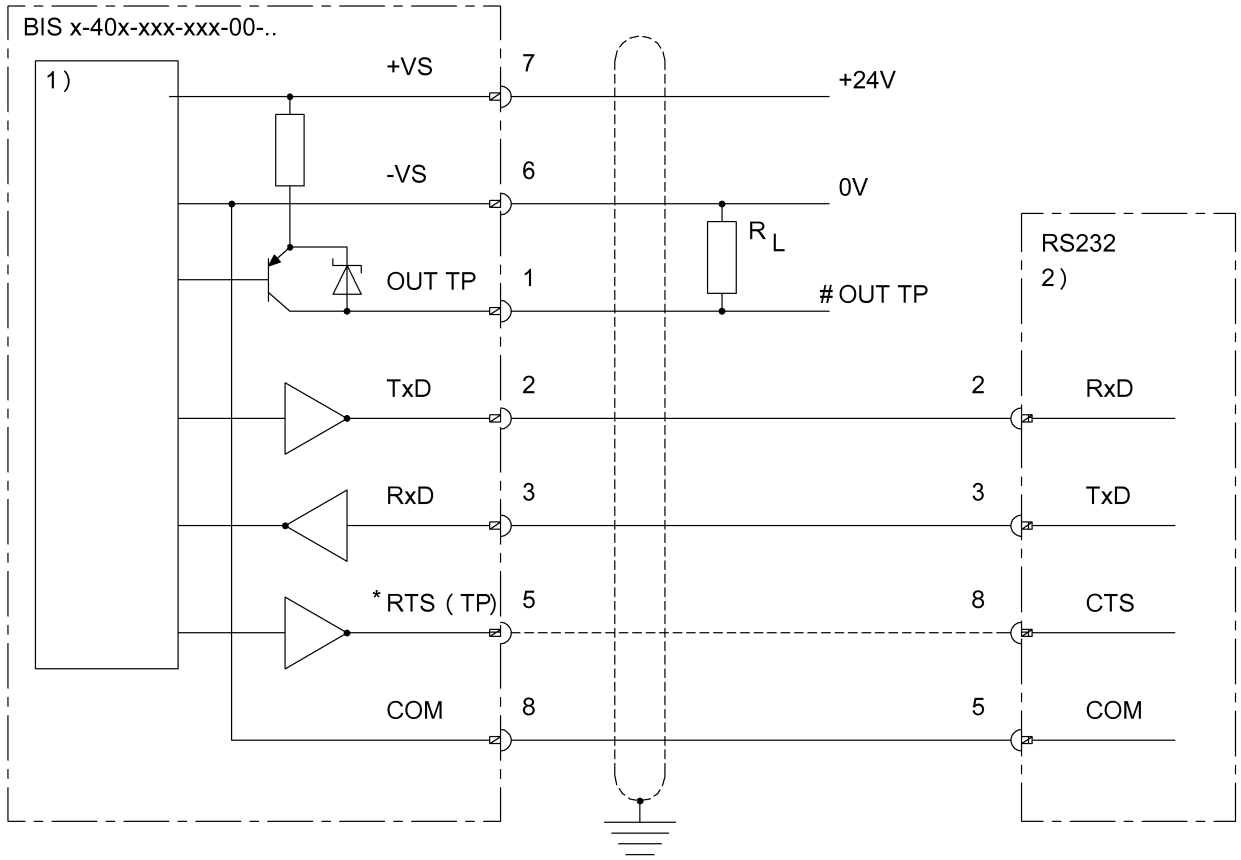
Indication of the MTTF- / B10d value does not represent a binding composition and/or life expectancy assurance; these are simply experiential values with no warranty implications. These declared values also do not extend the expiration period for defect claims or affect it in any way.

Connector Drawings



1) View towards connector

Wiring Diagrams



1) Internal circuit
2) 9-pin connection

Help Views

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passende Datenträger Appropriate data carriers	BIS M-101-01/L			BIS M-102-01/L			BIS M-105-01/A			BIS M-105-02/A			BIS M-108-02/L	
Abstand Datenträger zu Metall in mm (**a**)														
Data carrier distance to metal in mm	>25	>10	>5	>50	>15	>10	>20	>5		>20	>5		>25	>0
Freizone Datenträger in mm (**b**)														
Data carrier clear zone in mm	>100	>60	>50	>150	>90	>70	>100	>100		>100	>100		>100	>0
Schreibabstand in mm														
Write distance in mm	0-20	0-15	0-12	0-28	0-20	0-12	0-7	0-6		0-11	0-7		0-28	0-16
Leseabstand in mm														
Read distance in mm	0-20	0-15	0-12	0-28	0-20	0-12	0-7	0-6		0-11	0-7		0-28	0-16
Versatz in mm	±14	±10	±6	±20	±15	±6	±7	±6		±9	±6		±16	±10
bei Abstand von	±14	±10	±6	±20	±15	±6	±7	±6		±8	±6		±16	±10
	±14	±8	±4	±20	±15	±3				±5			±14	±8
Offset in mm	±10	±4	±2	±20	±13	±2							±14	±6
at distance	±10	±2		±20	±10								±14	±6
	±8			±18	±3								±14	±4
	±6			±16									±14	
	±5			±15									±14	
				±15									±12	
				±10									±12	

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passende Datenträger Appropriate data carriers	BIS M-110-02/L			BIS M-111-02/L			BIS M-112-02/L			BIS M-132-03/L-HT		BIS M-135-03/L-HT	
Abstand Datenträger zu Metall in mm (**a**)													
Data carrier distance to metal in mm	>25	>10	>5	>25	>10	>5	>50	>15	>10	>25	>0	>50	
Freizone Datenträger in mm (**b**)													
Data carrier clear zone in mm	>100	>60	>50	>100	>60	>50	>150	>90	>70	>100	>100	>150	
Schreibabstand in mm													
Write distance in mm	0-20	0-15	0-8	0-28	0-18	0-10	0-38	0-25	0-15	0-30	0-8	0-42	
Leseabstand in mm													
Read distance in mm	0-20	0-15	0-8	0-28	0-18	0-10	0-38	0-25	0-15	0-30	0-8	0-42	
Versatz in mm	0	±12	±8	±6	±16	±10	±7	±22	±16	±13	±18	±8	±30
bei Abstand von	5	±12	±8	±5	±16	±10	±7	±22	±16	±13	±18	±8	±30
	7	±10	±6	±4	±14	±8	±2	±22	±14	±10	±18	±6	±30
Offset in mm	8	±10	±6	±2	±14	±8	±2	±22	±14	±10	±18	±3	±30
at distance	9	±10	±6		±14	±8	±2	±22	±14	±10	±18		±30
	10	±8	±4		±14	±7	±1	±20	±13	±8	±18		±30
	12	±8	±4		±14	±7		±20	±13	±8	±18		±28
	15	±8	±2		±14	±6		±20	±12	±6	±18		±28
	16	±5			±14	±3		±20	±10		±18		±28
	18	±5			±14	±2		±20	±10		±18		±28
	20	±5			±14			±20	±8		±18		±28
	22				±12			±20	±6		±16		±24
	25				±12			±20	±4		±16		±24
	30							±16			±5		±24
	32							±10					±24
	35							±10					±24
	38							±5					±5
	42												±5
	45												
	50												
	55												

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passende Datenträger Appropriate data carriers	BIS M-107-03/L-H200		BIS M-140-02/A-xx		BIS M-142-02/A-xx	BIS M-143-02/A-xx		BIS M-144-02/A-xx	
Abstand Datenträger zu Metall in mm (a) Data carrier distance to metal in mm	>25	>0	>0		>0	>0		>0	
Freizone Datenträger in mm (b) Data carrier clear zone in mm	>100	>100	>100		>100	>100		>100	
Schreibabstand in mm									
Write distance in mm	0-27	0-13	0-22		0-22	0-13		0-22	
Leseabstand in mm									
Read distance in mm	0-27	0-13	0-22		0-22	0-13		0-22	
Versatz in mm	0	±16	±10	±13		±13	±10		±13
bei Abstand von	5	±16	±10	±13		±13	±10		±13
	10	±16	±7	±13		±13	±9		±13
Offset in mm	13	±14	±5	±11		±11	±5		±11
at distance	15	±14		±11		±11			±11
	18	±14		±11		±11			±11
	20	±14		±7		±7			±7
	22	±12		±7		±7			±7
	25	±12							
	27	±5							
	30								
	32								
	35								
	40								
	43								
	45								
	50								
	52								
	60								
	65								
	70								

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