


**Sd = 0 ... 1 mm**

- very high resolution
- short response time


**general data**

mounting type	quasi-flush
measuring distance Sd	0 ... 1 mm
resolution	< 0,001 mm (stat.) < 0,005 mm (dynam.)
repeat accuracy	< 0,01 mm
linearity error	± 70 µm
temperature drift	± 5 % (Full Scale)

**electrical data**

response time (factory characteristic)	< 0,5 ms
voltage supply range +Vs	15 ... 30 VDC
current consumption max. (no load)	15 mA
output circuit	voltage output
output signal	0 ... 10 VDC
load resistance	> 1000 Ohm
short circuit protection	yes
reverse polarity protection	yes

**mechanical data**

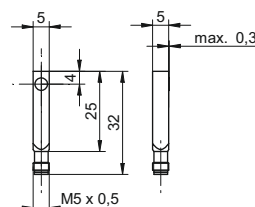
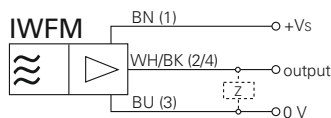
type	rectangular
housing material	stainless steel
dimension	5 mm
housing length	32 mm
connection types	connector M5

**ambient conditions**

operating temperature	10 ... +60 °C
protection class	IP 67

**connectors and mating connectors**

ESG 05SP0200	Connector M5, 3 pin, straight, 2 m
ESW 05SP0200	Connector M5, 3 pin, angular, 2 m
additional cable connectors and field wireable connectors: see accessories	

**order reference**
**IWFM 05U9701/S05**
**dimension drawing**

**connection diagram**




**Sd = 0 ... 2 mm**

- very high resolution
- short response time



**general data**

mounting type	quasi-flush
measuring distance Sd	0 ... 2 mm
resolution	< 0,001 mm (stat.) < 0,005 mm (dynam.)
repeat accuracy	< 0,02 mm
linearity error	± 100 µm
temperature drift	± 5 % (Full Scale)

**electrical data**

response time (factory characteristic)	< 1 ms
current consumption max. (no load)	10 mA
output circuit	voltage output
load resistance	> 3000 Ohm
short circuit protection	yes
reverse polarity protection	yes

**mechanical data**

type	rectangular
housing material	die-cast zinc nickel plated
dimension	8 mm
housing length	16 mm

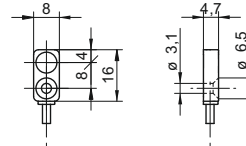
**ambient conditions**

operating temperature	10 ... +60 °C
protection class	IP 67

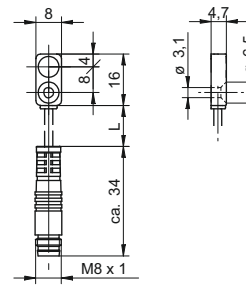
**connectors and mating connectors**

ESG 32SH0200	Connector M8, 3 pin, straight, 2 m
ESW 31SH0200	Connector M8, 3 pin, angular, 2 m
additional cable connectors and field wireable connectors: see accessories	

**dimension drawing**

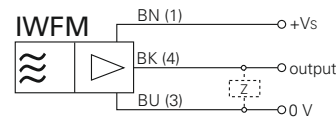


**flylead connector version**



standard cable length 200 mm (L)

**connection diagram**



order reference	output signal	voltage supply range +Vs	connection types
IWFM 08U6501	0 ... 5 VDC	10,8 ... 14,4 VDC	cable, 2 m
IWFM 08U6501/KS35	0 ... 5 VDC	10,8 ... 14,4 VDC	flylead connector M8
IWFM 08U9501	0 ... 10 VDC	15 ... 30 VDC	cable, 2 m
IWFM 08U9501/KS35	0 ... 10 VDC	15 ... 30 VDC	flylead connector M8


**Sd = 0 ... 4 mm**

- very high resolution
- short response time
- integrated current- and voltage output


**general data**

mounting type	flush
measuring distance Sd	0 ... 4 mm
linearity error	± 4 % (S = 0,5 ... 4 mm Full Scale)
temperature drift	± 4 % (Full Scale)

**electrical data**

voltage supply range +Vs	15 ... 30 VDC
current consumption max. (no load)	40 mA
output circuit	voltage - / current output
output signal	0 ... 10 V / 4 ... 20 mA
load resistance	> 1000 Ohm (Uout) / 330 ... 1000 Ohm (Iout)
voltage drop Vd	< 7,2 VDC (Iout)
short circuit protection	yes
reverse polarity protection	yes

**mechanical data**

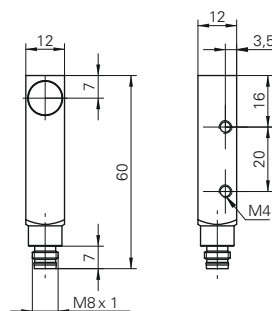
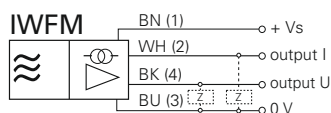
type	rectangular
housing material	brass nickel plated
dimension	12 mm
housing length	60 mm
connection types	connector M8

**ambient conditions**

operating temperature	-10 ... +70 °C
protection class	IP 67

**connectors and mating connectors**

ESG 32AH0200	Connector M8, 4 pin, straight, 2 m
ESW 31AH0200	Connector M8, 4 pin, angular, 2 m
additional cable connectors and field wireable connectors: see accessories	

**dimension drawing**

**connection diagram**


order reference	resolution	repeat accuracy	response time (factory characteristic)
IWFM 12L9504/S35A	< 0,005 mm	< 0,01 mm	< 2 ms
IWFM 12L9505/S35A	< 0,001 mm	< 0,005 mm	< 30 ms


**Sd = 1 ... 2 mm**

**general data**

mounting type	flush
measuring distance Sd	1 ... 2 mm
reference distance	1,35 ... 1,65 mm
measuring speed	< 0,5 mm / ms
repeat accuracy	< 0,02 mm
linearity error	± 80 µm
temperature coefficient	1 µm / (K mm)

**electrical data**

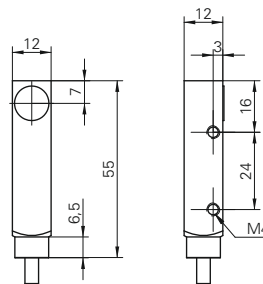
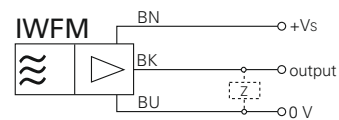
voltage supply range +Vs	15 ... 30 VDC
current consumption max. (no load)	20 mA
output circuit	voltage output
output signal	1 ... 9 VDC
load resistance	> 1000 Ohm
residual output ripple	< 0,5 % Vs
short circuit protection	yes
reverse polarity protection	yes

**mechanical data**

type	rectangular
housing material	brass nickel plated
dimension	12 mm
housing length	55 mm
connection types	cable, 2 m

**ambient conditions**

operating temperature	0 ... +60 °C
protection class	IP 67

**order reference**
**IWFM 12U9501/O1**
**dimension drawing**

**connection diagram**




**Sd = 0 ... 4 mm**

- very high resolution
- short response time
- linear analog output



**general data**

mounting type	flush
measuring distance Sd	0 ... 4 mm
temperature drift	± 5 % (Full Scale)

**voltage - / current output**

linearity error	± 4 % (S = 0,5 ... 4 mm Full Scale)
-----------------	-------------------------------------

**voltage output**

linearity error	± 0,4 %
-----------------	---------

**electrical data**

voltage supply range +Vs	15 ... 30 VDC
short circuit protection	yes
reverse polarity protection	yes

**voltage - / current output**

current consumption max. (no load)	40 mA
output signal	0 ... 10 V / 4 ... 20 mA
load resistance	> 1000 Ohm (Uout) / 330 ... 1000 Ohm (Iout)
voltage drop Vd	< 7,2 VDC (Iout)

**voltage output**

current consumption max. (no load)	20 mA
output signal	0 ... 10 VDC

**mechanical data**

type	rectangular
housing material	brass nickel plated
dimension	18 mm
housing length	30 mm
connection types	connector M8

**ambient conditions**

operating temperature	-10 ... +70 °C
protection class	IP 67

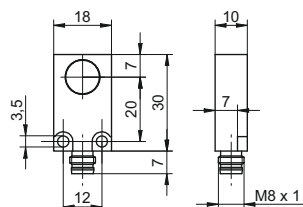
**connectors and mating connectors**

ESG 32AH0200 Connector M8, 4 pin, straight, 2 m  
 ESW 31AH0200 Connector M8, 4 pin, angular, 2 m  
 additional cable connectors and field wireable connectors: see accessories

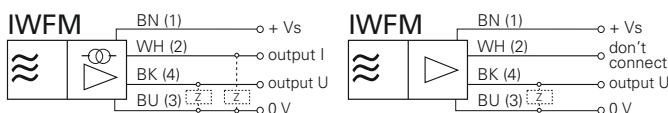
**accessories**

10152385 Sensofix series 18/20 inductive rectangular  
 for details: see accessories section

**dimension drawing**



**connection diagrams**



order reference	resolution	repeat accuracy	output circuit	response time (factory characteristic)	linearity error
IWFM 18L9504/S35A	< 0,005 mm	< 0,01 mm	voltage - / current output	< 2 ms	± 4 % (S = 0,5 ... 4 mm Full Scale)
IWFM 18L9505/S35A	< 0,001 mm	< 0,05 mm	voltage - / current output	< 30 ms	± 4 % (S = 0,5 ... 4 mm Full Scale)
IWFM 18U7504/S35A	< 0,005 mm	< 0,01 mm	voltage output	< 2,5 ms	± 0,4 %


**Sd = 2 ... 5 mm**

**general data**

mounting type	flush
measuring speed	< 1 mm / ms
repeat accuracy	< 0,01 mm
temperature coefficient	1 µm / (K mm)

**electrical data**

voltage supply range +Vs	15 ... 30 VDC
residual output ripple	< 0,5 % Vs
short circuit protection	yes
reverse polarity protection	yes

**voltage output**

current consumption max. (no load)	20 mA
------------------------------------	-------

output signal	1 ... 9 VDC
load resistance	> 1000 Ohm

**current output**

current consumption max. (no load)	35 mA
output signal	4 ... 20 mA
load resistance +Vs min.	< 500 Ohm
load resistance +Vs max.	< 1000 Ohm

**mechanical data**

type	rectangular
housing material	brass nickel plated
dimension	20 mm
housing length	35 mm
connection types	connector M8

**ambient conditions**

operating temperature	0 ... +60 °C
protection class	IP 67

**connectors and mating connectors**

ESG 32SH0200 Connector M8, 3 pin, straight, 2 m

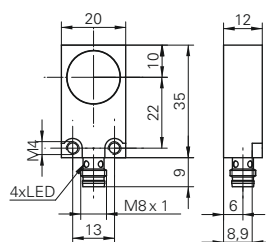
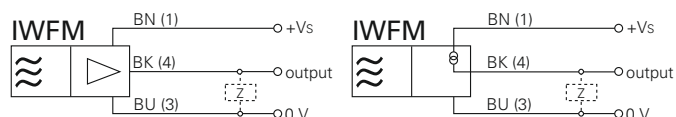
ESW 31SH0200 Connector M8, 3 pin, angular, 2 m

additional cable connectors and field wireable connectors: see accessories

**accessories**

10152385 Sensofix series 18/20 inductive rectangular

for details: see accessories section

**dimension drawing**

**connection diagrams**


order reference	measuring distance Sd	reference distance	output circuit	linearity error
IWFM 20I9501/S35	2 ... 5 mm	3,25 ... 3,75 mm	current output	± 100 µm
IWFM 20I9503/S35	2 ... 3 mm	2,35 ... 2,65 mm	current output	± 60 µm
IWFM 20U9501/S35	2 ... 5 mm	3,25 ... 3,75 mm	voltage output	± 100 µm
IWFM 20U9503/S35	2 ... 3 mm	2,35 ... 2,65 mm	voltage output	± 60 µm


**Sd = 0 ... 2 mm**

- small linearity error
- very short response time


**general data**

mounting type	flush
measuring distance Sd	0 ... 2 mm
resolution	< 0,001 mm (stat.) < 0,005 mm (dynam.)
repeat accuracy	< 0,01 mm
linearity error	± 40 µm
temperature drift	± 2 % (Full Scale)

**electrical data**

response time (factory characteristic)	< 0,5 ms
voltage supply range +Vs	15 ... 30 VDC
current consumption max. (no load)	20 mA
output circuit	voltage output
output signal	0 ... 10 VDC
load resistance	> 1000 Ohm
short circuit protection	yes
reverse polarity protection	yes

**mechanical data**

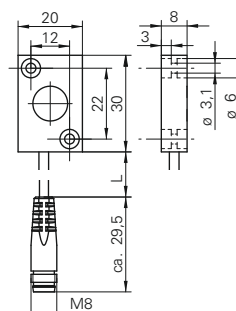
type	rectangular
housing material	brass nickel plated
dimension	20 mm
housing length	30 mm
connection types	flylead connector M8

**ambient conditions**

operating temperature	-10 ... +70 °C
protection class	IP 67

**connectors and mating connectors**

ESG 32AH0200	Connector M8, 4 pin, straight, 2 m
ESW 31AH0200	Connector M8, 4 pin, angular, 2 m
additional cable connectors and field wireable connectors: see accessories	

**order reference**
**IWFM 20U9509/KS35AP**
**dimension drawing**


standard cable length 200 mm (L)

**connection diagram**
