

# GCA3-PT - SSI up to 4.7 m

Interface SSI

Measuring length absolute 2.3 m and 4.7 m

## Overview

- Interface SSI
- Magnetic sensing method
- Operating temperature -40...+85 °C
- Protection IP 65
- Flange connector M12 or cable
- Measuring length 2.3 m and 4.7 m
- Designed for harsh environmental conditions
- Removable stickers for drainage



Picture similar

## Technical data

### Technical data - electrical ratings

Voltage supply	4.5...30 VDC
Reverse polarity protection	Yes
Short-circuit proof	Yes
Consumption typ.	20 mA (5 VDC, w/o load) 60 mA (24 VDC, w/o load)
Initializing time typ.	≤ 170 ms after power on
Interface	SSI
Function	Linear position feedback
Measuring range	Up to 4.7 m
Resolution	0.0603 mm/step
Linearity typ.	±0.2 % FS (measuring length 2.3 m) ±0.4 % FS (measuring length 4.7 m)
Absolute accuracy typ.	±0.3 % FS (+25 °C / measuring length 2.3 m) ±0.6 % FS (+25 °C / measuring length 4.7 m)
Sensing method	Magnetic
Code	Gray or binary
Interference immunity	EN 61000-6-2
Emitted interference	EN 61000-6-3

### Technical data - mechanical design

Protection EN 60529	IP 65 (housing, drainage holes closed) IP 54 (cable inlet)
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### Technical data - mechanical design

Material	Cable: stainless steel cable AISI 316 coated with nylon PA12 Housing: plastic and aluminium
Operating temperature	-40...+85 °C
Measuring length	2.3 m 4.7 m
Cable acceleration	≤50 m/s <sup>2</sup>
Cable diameter	0.7 mm
Cable fastening	Eyelet Height: 5 mm Internal diameter: 8 mm Outer diameter: 15 mm
Pull-in force	>1.5 N (pull-in force reduced at low temperatures)
Pull-out force	≤8 N
Relative humidity	95 % non-condensing
Resistance	EN 60068-2-6 Vibration 20 g, 58-2000 Hz EN 60068-2-27 Shock 50 g, 11 ms
Weight approx.	440 g
Connection	Flange connector M12, 8-pin Cable 2 m, radial
Instruction	Please consider the assembly instructions

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Interface SSI

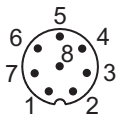
Measuring length absolute 2.3 m and 4.7 m

## Terminal assignment

### Flange connector M12, 8-pin, A-coded

Pin	Signals	Description
1	0 V	Voltage supply
2	+Vs	Voltage supply
3	Clock+	Clock signal
4	Clock-	Clock signal
5	Data+	Data signal
6	Data-	Data signal
7	SET	Zero setting input
8	DIR	Counting direction input

Screen: connected to housing



### Cable

Core colour	Signals	Description
brown	+Vs	Voltage supply
white	0 V	Voltage supply
green	Clock+	Clock signal
yellow	Clock-	Clock signal
grey	Data+	Data signal
pink	Data-	Data signal
blue	SET	Zero setting input
red	DIR	Counting direction input

Screen: connected to housing

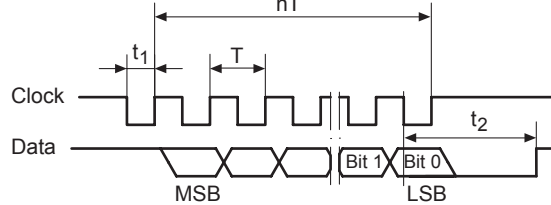
Cable data: 4 x 2 x 0.14 mm<sup>2</sup>, twisted in pairs

## Terminal significance

SET	<p>Zero setting. Input for zero setting at any position. The zero setting operation is triggered by a high pulse and has to be in line with the selected direction of rotation (DIR). Impulse duration &gt;100 ms. Connect to 0 V after zero setting for maximum interference immunity.</p>
DIR	<p>Counting direction input. The input is standard on high. For maximum interference immunity connect to +Vs respectively 0 V depending on counting direction. CW HIGH - CCW LOW (Version with DATAVALID does not include the counting direction input).</p>

## Data transfer

### Output signal



$T = 0.5 \dots 10 \mu\text{s}$

$t_1 = 0.25 \dots 5 \mu\text{s}$

$t_2 = 20 \pm 2 \mu\text{s}$

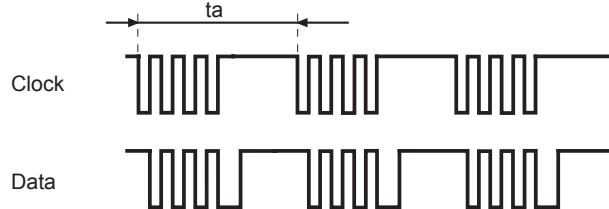
$f_{\text{max.}} = 2 \text{ MHz}$

### Data acquisition time $t_a$

Following timing of the SSI Masters is the requirement for a data refresh rate of typ. 2  $\mu\text{s}$ . If this is not fulfilled the data refresh rate is <50  $\mu\text{s}$ .

$t_a < 5000 \mu\text{s}$

$t_a \text{ jitter} < \pm 2 \mu\text{s}$



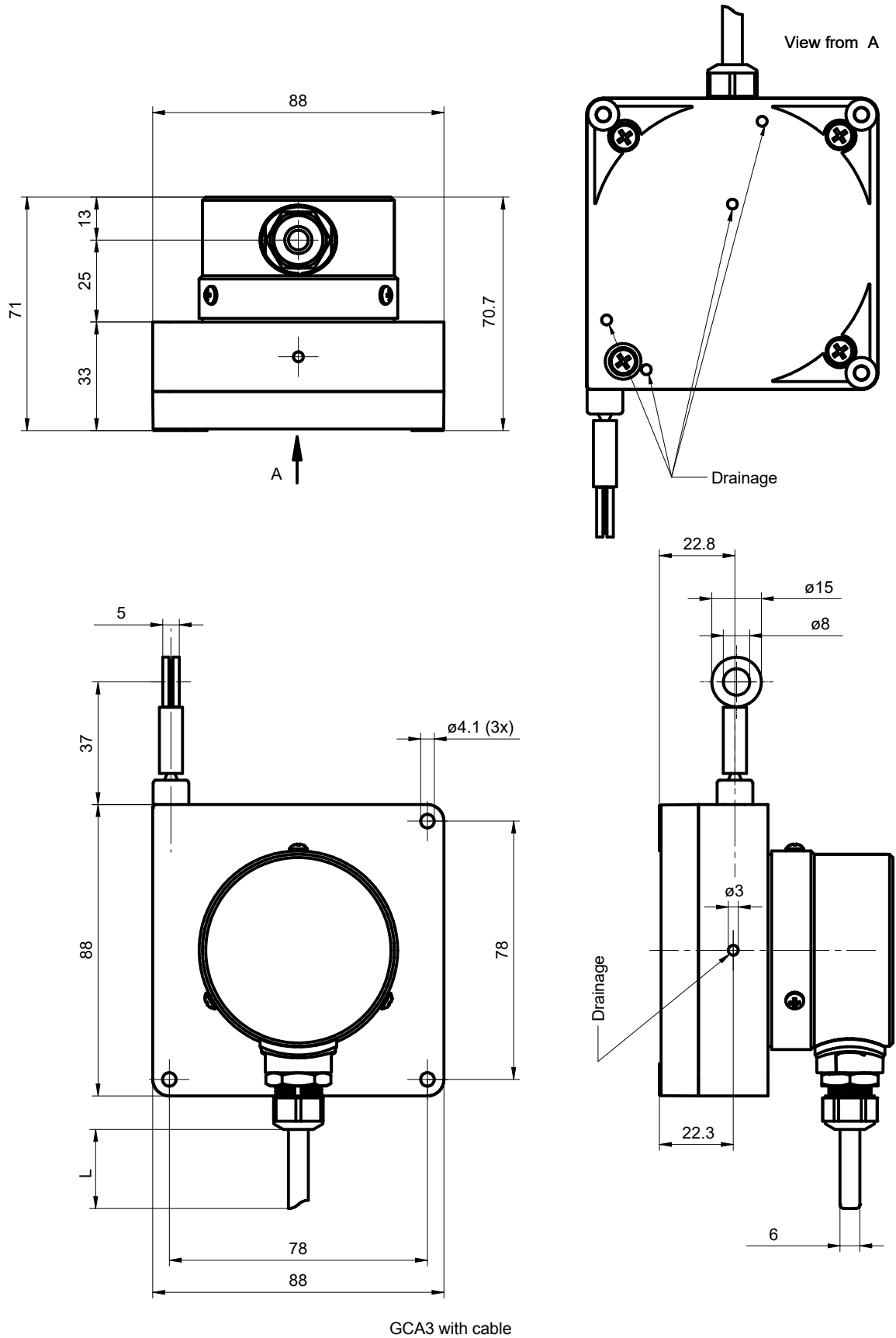


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## Dimensions



GCA3 with cable

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**Ordering reference**

	GCA3-	P	T	###	.	R	C	#	.	##	12/13	.	A
<b>Product</b>	GCA3-												
<b>Type</b>		P											
Plastic													
<b>Technology</b>			T										
Magnetic multiturn													
<b>Measuring range</b>													
2.3 m				023									
4.7 m				047									
<b>Measuring wire fixation</b>													
Ring						R							
<b>Measuring wire diameter</b>													
0.70 mm							C						
<b>Connection</b>													
Cable radial, 2 m												L	
Flange socket radial, M12, 8-pin, male contacts, CCW													B
<b>Voltage supply / interface</b>													
4.5...30 VDC, SSI, binary													4B
4.5...30 VDC, SSI, gray													4G
<b>Resolution</b>													
12/13 bit single-/multiturn													12/13
<b>Operating temperature</b>													
-40...+85 °C													

A