V-SERIES INCLINOMETER

SPECIFICATIONS

- **Single or dual axis inclinometer**
- **Measurement range +/-5°, +/-15° or +/-45°**
- **Analogue voltage or current output signal**
- **AL-housing IP 65**

FEATURES

- Single or dual axis inclinometer
- Analogue voltage or current output signal
- Easy to mounted
- High resolution
- Protection class IP 65
- Rugged M9 7 pins connector
- Robust AL-housing

The V-Series of conductive single or dual axis inclinometers offers a modern electronic in an environmentally protected and robust aluminium anodizing housing.This fully calibrated inclinometer is available with an analogue voltage output signals or current output signal. They have a compact study design and show large range of applications are possible.

APPLICATIONS

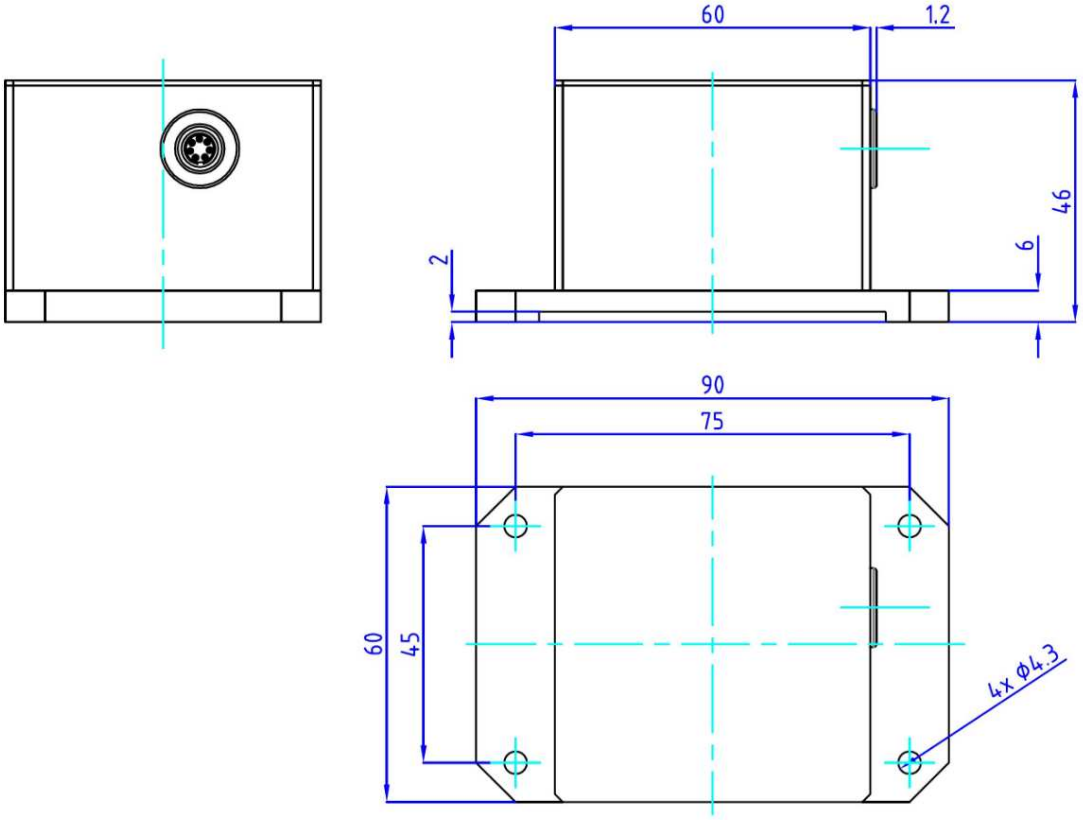
- Drilling machines
- Vehicle applications
- Building control
- Mobile and stationary cranes
- Hydraulic leveling
- Platform leveling
- Road construction machines

PERFORMANCE SPECIFICATIONS

	Conditions	Min	Type	Max	Unit
Measurement range		-5 , -15, -45		+5, +15, +45	°
Resolution (1)		0.001		0.01	°
Accuracy	Ta = 0°…70℃		0.08 , 0.15, 0.9 (4)		°
Non-linearity			1.5		%[FS]
Cross sensitivity			0.15		%[FS]
Voltage output signal (2),(3)	V,V2 unit	-2		+2	V
Voltage output signal (3)	V,V2 unit	0.5		4.5	V
Current output signal (3)	VI,V2I unit	20		4	mA
Current consumption		10		30	mA
Power supply		+12		+24	VDC
Operation temperature range		0		+70	℃
Storage temperature range		-40		+85	℃
Weight		300		320	g
Dimensions	W x D x H		90 x 60 x 45.5		mm

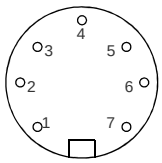
(1) depend on measurement range
(2) ratiometric to signal ground GNDx,y
(3) depending on the ciruitry wiring, see pinning schema
(4) up to measurement range +/-30°

DIMENSIONS [MM]



PINNING

Pinning single axis unit with voltage output signal: NS-5/V, NS-15/V, NS-45/V



Pin	Name	Description	Type	Color schema(1)
1	Vcc	Positive power supply +12…+24VDC	Supply, Input	white
2	GND	Ground, negative supply voltage	Supply, Input	brown
3	Earth	Protection conductor	Supply, Input	green
4	GNDx	Ground for output voltage signal X axis	Output	yellow
5	n.c.	n.c.	-	grey
6	Out Vx	Output voltage signal X axis	Output	pink
7	n.c.	n.c.	-	blue

(1) By using a Measurement Specialties cable

Output connecting possibility 1

Pin 6 output voltage signal Vx x-axis

Output signal – 2V (- 5°) to +2V (+ 5°)
Output signal – 2V (-15°) to +2V (+15°)
Output signal – 2V (-45°) to +2V (+45°)

Pin 4 GNDx analogue ground x-axis

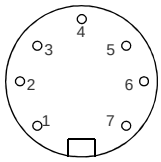
Output connecting possibility 2

Pin 6 output voltage signal Vx x-axis

Output signal + 0,5V (- 5°) to + 4,5V (+ 5°)
Output signal + 0,5V (-15°) to + 4,5V (+15°)
Output signal + 0.5V (-45°) to + 4,5V (+45°)

Pin 2 GND supply ground

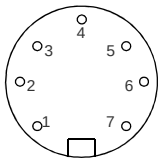
Pinning single axis unit with current output signal: NS-5/VI, NS-15/VI, NS-45/VI



Pin	Name	Description	Type	Color schema(1)
1	Vcc	Positive power supply +12…+24VDC	Supply, Input	white
2	GND	Ground, negative supply voltage	Supply, Input	brown
3	Earth	Protection conductor	Supply, Input	green
4	GNDx	Ground for output current signal X axis	Output	yellow
5	n.c.	n.c.	-	grey
6	Out Ix	Output Current signal X axis	Output	pink
7	n.c.	n.c.	-	blue

(1) By using a Measurement Specialties cable

Pinning dual axis unit with voltage output signal: NS-5/V2, NS-15/V2, NS-45/V2



Pin	Name	Description	Type	Color schema(1)
1	Vcc	Positive power supply +12…+24VDC	Supply, Input	white
2	GND	Ground, negative supply voltage	Supply, Input	brown
3	Earth	Protection conductor	Supply, Input	green
4	GNDx	Ground for output voltage signal X axis	Output	yellow
5	GNDy	Ground for output voltage signal Y axis	Output	grey
6	Out Vx	Output voltage signal X axis	Output	pink
7	Out Vy	Output voltage signal Y axis	Output	blue

(1) By using a Measurement Specialties cable

Output connecting possibility 1

Pin 6,7 output voltage signal Vx x-axis, Vy y-axis

↓

Pin 4,5 GNDx,y analogue ground x,y-axis

Output signal – 2V (- 5°) to +2V (+ 5°)
Output signal – 2V (-15°) to +2V (+15°)
Output signal – 2V (-45°) to +2V (+45°)

Output connecting possibility 2

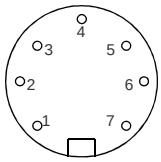
Pin 6,7 output voltage signal Vx x-axis, Vy y-axis

↓

Pin 2 GND supply ground

Output signal + 0,5V (- 5°) to + 4,5V (+ 5°)
Output signal + 0,5V (-15°) to + 4,5V (+15°)
Output signal + 0.5V (-45°) to + 4,5V (+45°)

Pinning dual axis unit with current output signal: NS-5/V2I, NS-15/V2I, NS-45/V2I



Pin	Name	Description	Type	Color schema(1)
1	Vcc	Positive power supply +12…+24VDC	Supply, Input	white
2	GND	Ground, negative supply voltage	Supply, Input	brown
3	Earth	Protection conductor	Supply, Input	green
4	GNDx	Ground for output current signal X axis	Output	yellow
5	GNDy	Ground for output current signal Y axis	Output	grey
6	Out Ix	Output Current signal X axis	Output	pink
7	Out Iy	Output Current signal Y axis	Output	blue

(1) By using a Measurement Specialties cable

ORDERING INFORMATION

PART NUMBERING	UNIT	SHORT DESCRIPTION
Single axis unit		
G-NSV-001	NS- 5/V	single axis,range +/- 5°,Vcc 12 to 24VDC,output V
G-NSVI-001	NS- 5/VI	single axis,range +/- 5°,Vcc 12 to 24VDC,output I
G-NSV-002	NS-15/V	single axis,range +/-15°,Vcc 1 2 to 24VDC,output V
G-NSVI-003	NS-15/VI	single axis,range +/-15°,Vcc 12 to 24VDC,output I
G-NSV-005	NS-45/V	single axis,range +/-45°,Vcc 1 2 to 24VDC,output V
G-NSVI-006	NS-45/VI	single axis,range +/-45°,Vcc 12 to 24VDC,output I
Dual axis unit		
G-NSV2-001	NS- 5/V2	dual axis,range +/- 5°,Vcc 1 2 to 24VDC,output V
G-NSV2I-001	NS- 5/V2I	dual axis,range +/- 5°,Vcc 12 to 24VDC,output I
G-NSV2-003	NS-15/V2	dual axis,range +/-15°,Vcc 1 2 to 24VDC,output V
G-NSV2I-003	NS-15/V2I	dual axis,range +/-15°,Vcc 12 to 24VDC,output I
G-NSV2-006	NS-45/V2	dual axis,range +/-45°,Vcc 1 2 to 24VDC,output V
G-NSV2I-006	NS-45/V2I	dual axis,range +/-45°,Vcc 12 to 24VDC,output I
Accessories		
G-NSMIS-001	Connection	Connector,straight, Submin.712-series
G-NSMIS-015	Connection	Connector, angle 90°, Sub min.712-series
G-NSMIS-002	Connection	2 m cable, straight connector Submin.702-series
G-NSMIS-003	Connection	2 m cable, angle 90° conn ector Submin.702-series

Other cable lenght on request