PEI-Z245SS-TTL-1 Dual-axis inclinometer specification

- Serial communication TTL
- Stainless steel housing
- IP68
- M12 standard connector
- “+” and “-“ value indication
- Zero setting
- Programmable output rate

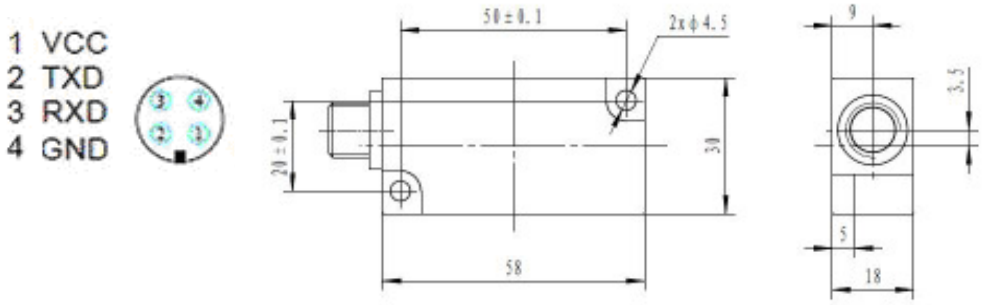
Technical specification

	Parameter	Condition	Min.	Typ.	Max.	Units
Electrical characteristics	Supply voltage		4.75	5	5.25	VDC
	Static oper. current	Power supply is 5V			20	mA
	Operating temperature		-40		85	℃
Performance characteristics	Measuring range		-45		45	°
	Resolution			0.1		°
	Accuracy	RMS		±0.5		°
	Zero Temp. Drift	-40～+85℃		±0.03		°/℃
	Output Frequency		1		14	Hz
Others	Outline size			58*30*18		mm
	Anti-shock	1ms		1000		g
	Anti-vibration	10-500Hz		10		g
	IP grade	2m underwater, 2 hours			IP68	

Note 1: Output frequency can be adjusted by "FILT**" command, default is 14Hz (about 1 Hz error)

Note 2: measuring range is 2 axis,+/-45°.

Connection and Size:



Ordering information:

PEI-Z245SS-TTL-1-F M12 female, w/o plug

PEI-Z245SS-TTL-1 M12 male, with plug and 1m cable

Data output format:

Output in ASCII or Hex format.

Supporting your great ideas www.pewatron.com PEWATRON a member of the Angst + Pfister Group

Default values: 9600bp/s data rate. Single byte transmission format: 1 start bit, 8 data bits, 1 stop bit.

1、ASCII format

One set of data has 16 bytes.

Byte	Function,signal,data	Value in Hex format
Byte1	X	58
Byte2	+/-	2B/2D
Byte3	X-axis tens digit of angle value	30～39
Byte4	X-axis units digit of angle value	30～39
Byte5	point“.”	2E
Byte6	one digit after the decimal point of X-axis angle value.	30～39
Byte7	space“SP”	20
Byte8	space“SP”	20
Byte9	Y	59
Byte10	+/-	2B/2D
Byte11	Y-axis tens digit of angle value	30～39
Byte12	Y-axis units digit of angle	30～39
Byte13	point “.”	2E
Byte14	one digit after the decimal point of Y-axis angle value.	30～39
Byte15	enter“CR”	0D
Byte16	New line“LF”	0A

If current x-axis = +12.5 degrees and Y-axis = -7.3 degrees，it will output

X + 1 2 . 5 (0x20) (0x20) Y – 0 7 . 3 (0x0D) (0x0A)

Note ： 88.8 is displayed in case of overrange

2.Hex Format

In hex format, there are 5 bytes in total, the first 2 bytes are X angle value, the second 2 bytes are Y angle value, the last byte is 0A (which represent end).

For the angle value of X and Y axis, the first highest bit 1 represent X axis,0 represent Y axis. The second highest bit 1 represent minus angle value, 0 represent positive angle value

For example:

X-axis = +23.6degree, Y axis = -45 degree, Display 80 EC 41 C2 0A

Supporting your great ideas www.pewatron.com PEWATRON a member of the Angst + Pfister Group

0x8000＋（23.6×10=236 translate into HEX is 0x00EC）X axis output is 0x80EC
0x4000＋（45×10=450 translate into HEX is 0x01C2）Y axis output is 0x41C2

User Instructions

Serial communication command

	Command word	function	Response symbol	remark
Operating state	$	"stop sending, receiving "		Stop sending and collecting data, waiting for receiving command.
	@P	Output angle value		Angle output mode, is default state after power on.
Operating parameter	FILT**	Set output frequency	setfilt**	output frequency setting available value :“01，03，05，07，10，14，” FILT05，means 5Hz output.
	&Z	Set zero	set zero	Consider current position as relative zero degree, outputs relatively, is not kept after power off.
	&R	conversion of relative and absolute angle.	R	Relative and absolute angle output. Output “R” after accept command, is not kept after power off.
display format	*AS	ASCII communication	asii	ASCII communication, default display format.
	*HE	Hex communication	hex	is not kept after power off.
Output mode	*n（lower case）	continuous output		Default setting is continuous output, when output mode is changed, information will be stored in EEPOM.
	*P（capitalization）	single step output		
	@??	data group for single step output	set??	Set data sets of single output, “??” is from 01 to 99; default is 01.
Baud rate	*4800B	Baud rate 4800	baud4800	It will immediately be effective under continuous output mode, it will be effective after power on under single step output mode. default is 9600.
	*9600B	Baud rate 9600	baud9600	
	*1920B	Baud rate 19200	baud19200	

Note 1: After power-on SW-Version is sent to PC

Note 2: Default mode is continuous output mode.

Note 3: Please distinguish upper/lower case when entering command word.

Specifications subject to change without notice!

Supporting your great ideas www.pewatron.com PEWATRON a member of the Angst + Pfister Group

PEWATRON
a member of the Angst + Pfister Group

We are here for you. Addresses and Contacts

Sales Switzerland

Postcode 3000 – 9999
Liechtenstein

Matthias Rüegg
Ruhbergstrasse 32
CH-9230 Flawil

Phone + 41 44 877 35 18
Mobile + 41 76 491 66 66
Fax + 41 44 877 35 19

matthias.rueegg@pewatron.com

Postcode 1000 – 2999

Raffael Favaretto
Route d'Oron 124
CH-1673 Promasens

Phone + 41 44 877 35 22
Mobile + 41 76 444 63 14
Fax + 41 44 877 35 23

raffael.favaretto@pewatron.com

Sales Germany

Postcode 60000 – 79999

Dieter Hirthe
Mühlweg 23
D-71554 Weissach i.T.

Phone + 49 719 149 60 58
Mobile + 49 163 762 74 30
Fax + 49 719 193 31 88

dieter.hirthe@pewatron.com

Postcode 10000 – 59999
Postcode 80000 – 99999

Kurt Stritzelberger
Neumarkter Str. 86a
D-81673 Munich

Phone + 49 89 260 38 47
Mobile + 49 171 803 41 35
Fax + 49 89 43 10 91 91

kurt.stritzelberger@pewatron.com

Key Accounts
Aerospace and Defence

Claus Wübbena
Vogelkamp 26
D-26655 Westerstede

Phone + 49 4488 5204 614
Mobile + 49 173 9700 691
Fax + 49 4488 5204 616

claus.wuebbena@pewatron.com

Sales Austria

Kurt Stritzelberger
Neumarkter Str. 86a
D-81673 Munich

Phone + 49 89 260 38 47
Mobile + 49 17 18 03 41 35
Fax + 49 89 43 10 91 91

kurt.stritzelberger@pewatron.com

Sales Other Countries / Product Management

Sensors

Physical Sensors
Data Acquisition

Peter Felder
Phone + 41 44 877 35 05
peter.felder@pewatron.com

Geometrical Sensors

Eric Letsch
Phone + 41 44 877 35 14
eric.letsch@pewatron.com

Power Supplies

DC-DC Converters
Switching Power Supplies
DC-AC Inverters

Sebastiano Leggio
Phone + 41 44 877 35 06
sebastiano.leggio@pewatron.com

E-Components

Current Sensors
Man Machine Interface
Measurement Probes

Sebastiano Leggio
Phone + 41 44 877 35 06
sebastiano.leggio@pewatron.com

PEWATRON AG
Thurgauerstrasse 66
CH-8052 Zurich

Phone + 41 44 877 35 00
Fax + 41 44 877 35 25

www.pewatron.com
info@pewatron.com