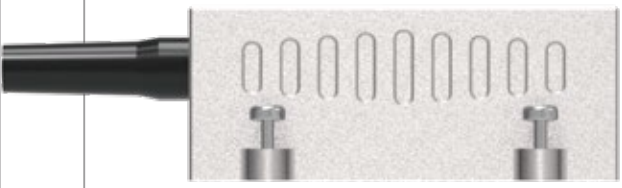
PAUT PROBES
CATALOG

- PAUT PROBE
- CUSTOM PROBE
- WEDGE



Company Profile

Eintik Inspection Technology (Shanghai) Incorporated company. is a high-tech company specializing in designing and manufacturing ultrasound probes. We provide leading-edge ultrasound probes, PAUT (phased-array ultrasound) probes, TOFD probes, medical imaging probes, and customized probes.

Eintik encourages innovation and intellectual property protection. We aim to be competitive by possessing proprietary technologies, including core technology in gradient acoustic matching layer, 1-3 piezoelectric monocrystal composite, two-dimensional array probe encapsulation technology, etc. We strictly follow ISO9001:2015 and ISO13485:2016 Quality Management System.

We take pride in providing ward-winning products and customer service. Every day, thousands of inspectors around the world are benefiting from our probes. Together we hope to build the best probes around the globe.

www.eintik.com

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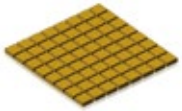

2D Matrix (M)

Annular (A)

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Daisy Array(DA)

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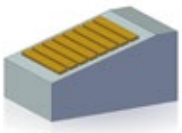
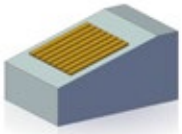
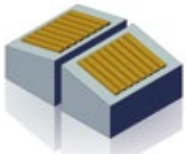


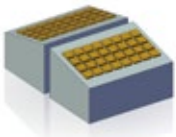
Variable angle (VL)



Skew (SL)



Dual linear(DL)



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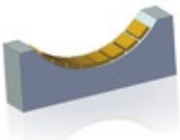
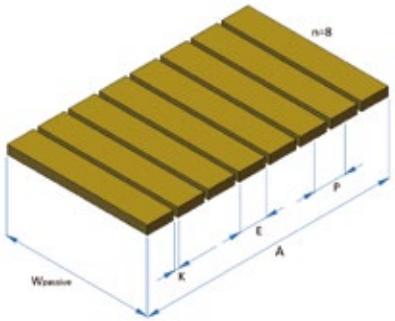
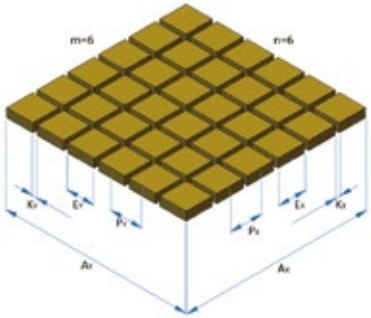


Concave (C)

Parameters



1D Linear Array



2D Matrix Array

- **Primary Axis:** Axis along which the individual elements are aligned for 1D linear probe
- **Secondary Axis / Elevation(Y):** Axis perpendicular to the primary axis of a probe
- **Number of Elements (Primary Axis/n):** Total number of elements aligned along the primary axis
- **Number of Elements (Secondary Axis/m):** Total number of elements aligned along the secondary axis (Matrix Array only)
- **Primary Axis Pitch(P/Px):** Center–to–center distance between two consecutive elements along the primary axis
- **Secondary Axis Pitch(PY):** Center–to–center distance between two consecutive elements along the secondary axis (2D Matrix Array only)
- **Primary Axis Aperture(A/Ax):** Dimension of the probe surface along the primary axis
  $Ax = (n - 1) \cdot Px + Ex$
- **Secondary Axis Aperture(AY/Wpassive):** Dimension of the probe surface along the secondary axis
  $Ay = (m - 1) \cdot Py + Ey$

Product Introduction

Probe Selection Guide

Product series	Casing Type	Normal Welding	High Attenuation	Space Limited	Corrosion Coating	Austenite	Flexible Wedge	Composite	Immersion
E Extra small series	S17,S18			●					
S Small series	S5,S14	●							
M Medium Series	S8,S15 S24,S22	●	●						
L Large series	S19,S20 S21,S23	●	●						
I Immersion series	S25 S26,S27						●	●	
NS Narrow side series	S13				●				
LP Low profile series	S4			●					
2D 2D matrix series	S10,S11		●			●			
CC Curved Array series	S28 S29,S30						●		
1.5D Dual 1.5D matrix series	S31					●			

Probe Naming Rules

Array Type
- L linear
- EF Elevation Focused
- M Matrix
- A Annular
- V Concave
- C Covex
- CC Circular Array

Elementary Pitch
- 0.6 0.6mm

Casing Material
- S1 Stainless Steel
- A1 Aluminium Alloy
- C1 Other Material

Cable Length
- 2.5 2.5mm

5 L 64 – 0.6 x 10 – S1 – F 2.5 – D3

Frequency
- 1.5 1.5MHz
- 2.25 2.25MHz
- 3.5 3.5MHz
- 5 5MHz
- 7.5 7.5MHz
- 10 10MHz
- 15 15MHz
- 20 20MHz

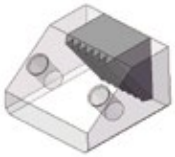
Number of Elements
- 64 64 Elements

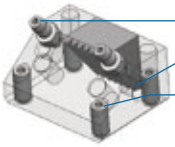
Elevation
- 10 10mm

Cable Material
- F PU,Halogn–Free Sheathing
- P PVC
- M Metal Armor Sheathing
- PA Polyamide Amor Sheating
- HT High–Temperature Cable

Connector Type
- D3 OmniScan Connector
- D4 Phasor Connector
- D5 CONNEC Connector
- D6 Hypertronics Connector
- D7 Topaz/Zircon Connector
- D8 ITT CANNON Connector

Wedge Naming Rules





I: Coupling agent injection port
H: Scanner holes
C: Carbide wear pins

Prode Mounting

N	Normal
L	Lateral(90° Skew)
DN	Dual Normal

Refracted Angle In Steel

0	0°
55	55°
70	70°

Options

IH	Irrigation, Scanner Holes
IHS	Irrigation, Scanner Holes and Stainless Steel Frame
IHC	Irrigation, Scanner Holes and Carbide Wear Pins

Curved Diameter

80	80mm

S8 – N 55 S – IHC – AOD 80

Probe Casing Type

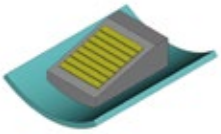
S1	Material is Stainless Steel
A1	Material is Aluminium Alloy
C1	Other Material

Wave Type

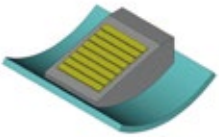
S	Shear Wave（3230m/s）
L	Longitudinal（5920m/s）

Contact Surface Type

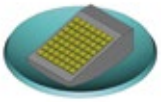
AOD	Axial outside diameter
COD	Circumferential outside



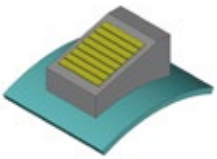
Axial Inside Diameter



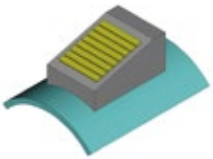
Circumferential Inside Diameter
CID



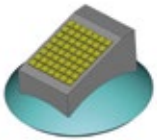
Spherical Inside Diameter
SID



Axial Outside Diameter
AOD



Circumferential Outside Diameter
COD



Spherical Outside Diameter
SOD

PAUT Probe

ES | Extra Small Series

Part Number	Frequency (M Hz)	Number of Elements	Pitch (mm)	Active Aperture (mm)	Elevation (mm)	External Dimensions (mm)	Casing Type
5L16-0.31x5	5	16	0.31	5.0	5.0	LxWxH 8x8x23	S17
7.5L16-0.31x5	7.5	16	0.31	5.0	5.0		
10L16-0.31x5	10	16	0.31	5.0	5.0		

Part Number	Frequency (M Hz)	Number of Elements	Pitch (mm)	Active Aperture (mm)	Elevation (mm)	External Dimensions (mm)	Casing Type
5L10-0.6x6	5	10	0.60	6.0	6.0	LxWxH 13x10x23	S18
7.5L10-0.6x6	7.5	10	0.60	6.0	6.0		
10L10-0.6x6	10	10	0.60	6.0	6.0		

S | Small Series

Part Number	Frequency (M Hz)	Number of Elements	Pitch (mm)	Active Aperture (mm)	Elevation (mm)	External Dimensions (mm)	Casing Type
2.25L16-0.6x10	2.25	16	0.60	9.6	10.0	LxWxH 22.5x15.5x20	S5
5L16-0.6x10	5	16	0.60	9.6	10.0		
7.5L16-0.6x10	7.5	16	0.60	9.6	10.0		
10L32-0.31x7	10	32	0.31	9.9	7.0		

Part Number	Frequency (M Hz)	Number of Elements	Pitch (mm)	Active Aperture (mm)	Elevation (mm)	External Dimensions (mm)	Casing Type
5L32-0.6x10	5	32	0.60	19.2	10.0	LxWxH 30x28x25	S14
7.5L32-0.6x10	7.5	32	0.60	19.2	10.0		
10L32-0.3x10	10	32	0.30	9.9	10.0		
10L64-0.3x10	10	64	0.30	19.2	10.0		

M | Medium Series

Part Number	Frequency (M Hz)	Number of Elements	Pitch (mm)	Active Aperture (mm)	Elevation (mm)	External Dimensions (mm)	Casing Type
2.25L64-0.6x10	2.25	64	0.60	38.4	10.0	LxWxH 44.5x22.5x 28	S8
5L64-0.6x10	5	64	0.60	38.4	10.0		
7.5L64-0.6x10	7.5	64	0.60	38.4	10.0		
10L64-0.6x7	10	64	0.60	38.4	7.0		

PAUT Probe

M | Medium Series

Part Number	Frequency (M Hz)	Number of Elements	Pitch (mm)	Active Aperture (mm)	Elevation (mm)	External Dimensions (mm)	Casing Type
2.25L32-1.0x10	2.25	32	1.00	32.0	10.0	LxWxH 40x28x25	S15
5L32-1.0x10	5	32	1.00	32.0	10.0		
5L64-0.5x10	5	64	0.50	32.0	10.0		

Part Number	Frequency (M Hz)	Number of Elements	Pitch (mm)	Active Aperture (mm)	Elevation (mm)	External Dimensions (mm)	Casing Type
2.25L32-0.75x24	2.25	32	0.75	24.0	24.0	LxWxH 29x43x25	S24
5L32-0.6x20	5	32	0.60	19.2	20.0		
5L32-0.75x24	5	32	0.75	24.0	24.0		

Part Number	Frequency (M Hz)	Number of Elements	Pitch (mm)	Active Aperture (mm)	Elevation (mm)	External Dimensions (mm)	Casing Type
3.5L16-1.6x16	3.5	16	1.60	25.6	16.0	LxWxH 36x36x25	S22
5L16-1.2x12	5	16	1.20	19.2	12.0		
5L16-1.6x16	5	16	1.60	25.6	16.0		

L | Large Series

Part Number	Frequency (M Hz)	Number of Elements	Pitch (mm)	Active Aperture (mm)	Elevation (mm)	External Dimensions (mm)	Casing Type
5L60-1.0x10	5	60	1.00	60.0	10.0	LxWxH 68x26x30	S19
7.5L60-1.0x10	7.5	60	1.00	60.0	10.0		
10L60-1.0x10	10	60	1.00	60.0	10.0		

Part Number	Frequency (M Hz)	Number of Elements	Pitch (mm)	Active Aperture (mm)	Elevation (mm)	External Dimensions (mm)	Casing Type
3.5EF60-1.0x18*	3.5	60	1.00	60.0	18.0	LxWxH 68x31x30	S20
5EF60-1.0x18*	5	60	1.00	60.0	18.0		
7.5EF60-1.0x18*	7.5	60	1.00	60.0	18.0		

*晶片次轴方向自聚焦

PAUT Probe

L | Large Series

Part Number	Frequency (M Hz)	Number of Elements	Pitch (mm)	Active Aperture (mm)	Elevation (mm)	External Dimensions (mm)	Casing Type
3.5L60-1.0x10	3.5	60	1.00	60.0	10.0	LxWxH 68x23x20	S21
5L60-1.0x10	5	60	1.00	60.0	10.0		
7.5L60-1.0x10	7.5	60	1.00	60.0	10.0		

Part Number	Frequency (M Hz)	Number of Elements	Pitch (mm)	Active Aperture (mm)	Elevation (mm)	External Dimensions (mm)	Casing Type
1.5L16-2.8x26	1.5	16	2.80	44.8	26.0	LxWxH 57x46x30	S23
2.25L16-2x20	2.25	16	2.00	32.0	20.0		
3.5L16-2x20	3.5	16	2.00	32.0	20.0		

I | Immersion Series

Part Number	Frequency (M Hz)	Number of Elements	Pitch (mm)	Active Aperture (mm)	Elevation (mm)	External Dimensions (mm)	Casing Type
5L64-0.6x10	5	64	0.60	38.4	10.0	LxWxH 50x21x25	S25
7.5L64-0.6x10	7.5	64	0.60	38.4	10.0		
10L64-0.6x10	10	64	0.60	38.4	10.0		

Part Number	Frequency (M Hz)	Number of Elements	Pitch (mm)	Active Aperture (mm)	Elevation (mm)	External Dimensions (mm)	Casing Type
5L128-0.6x10	5	128	0.60	76.8	10.0	LxWxH 83x21x35	S26
7.5L128-0.6x10	7.5	128	0.60	76.8	10.0		
10L128-0.5x7	10	128	0.50	64.0	7.0		

Part Number	Frequency (M Hz)	Number of Elements	Pitch (mm)	Active Aperture (mm)	Elevation (mm)	External Dimensions (mm)	Casing Type
2.25L128-0.75x12	2.25	128	0.75	96.0	12.0	LxWxH 102x21x35	S27
3.5L128-0.75x10	3.5	128	0.75	96.0	10.0		
5L128-0.75x10	5	128	0.75	96.0	10.0		
7.5L128-0.75x10	7.5	128	0.75	96.0	10.0		

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NS | Narrow side Series

Part Number	Frequency (M Hz)	Number of Elements	Pitch (mm)	Active Aperture (mm)	Elevation (mm)	External Dimensions (mm)	Casing Type
3.5L64-1.0x10	3.5	64	1.00	64.0	10.0	LxWxH 66x19x25	S13
5L64-1.0x10	5	64	1.00	64.0	10.0		
7.5L64-1.0x10	7.5	64	1.00	64.0	10.0		
10L64-1.0x10	10	64	1.00	64.0	10.0		

LP | Low profile series

Part Number	Frequency (M Hz)	Number of Elements	Pitch (mm)	Active Aperture (mm)	Elevation (mm)	External Dimensions (mm)	Casing Type
5EF16-0.5x10*	5	16	0.50	8.0	10.0	LxWxH 25x22x10	S4
7.5EF16-0.5x10*	7.5	16	0.50	8.0	10.0		
10EF16-0.5x7*	10	16	0.50	8.0	7.0		
10EF32-0.25x7*	10	32	0.25	8.0	7.0		

*晶片次轴方向自聚焦

CC | Concave Series

Part Number	Frequency (M Hz)	Number of Elements	Pitch (mm)	Active Aperture (mm)	Elevation (mm)	Radius (mm)	External Dimensions (mm)	Casing Type
2.25C16-1.0x8	2.25	16	1.00	16.0	8.0	10.2	LxWxH 23.5x14x23.5	S28
3.5C16-1.0x8	3.5	16	1.00	16.0	8.0	10.2		
5C16-1.0x8	5	16	1.00	16.0	8.0	10.2		

Part Number	Frequency (M Hz)	Number of Elements	Pitch (mm)	Active Aperture (mm)	Elevation (mm)	Radius (mm)	External Dimensions (mm)	Casing Type
2.25C32-1.35x8	2.25	32	1.35	43.2	8.0	25.0	LxWxH 43x14x43	S29
3.5C32-1.35x8	3.5	32	1.35	43.2	8.0	25.0		
5C32-1.35x8	5	32	1.35	43.2	8.0	25.0		

Part Number	Frequency (M Hz)	Number of Elements	Pitch (mm)	Active Aperture (mm)	Elevation (mm)	Radius (mm)	External Dimensions (mm)	Casing Type
2.25C64-1.65x8	2.25	64	1.65	105.6	8.0	50.0	LxWxH 131x14x55	S30
3.5C64-1.65x8	3.5	64	1.65	105.6	8.0	50.0		
5C64-1.65x8	5	64	1.65	105.6	8.0	50.0		
5C128-0.8x8	5	128	0.80	102.4	8.0	50.0		

2D | 2D Matrix Series

Part Number	Frequency (M Hz)	Number of Elements	Pitch (mm)	Active Aperture (mm)	Elevation (mm)	Active Aperture Secondary Axis (mm)	External Dimensions (mm)	Casing Type
5M8x8-1.5x1.5	5	64	1.50	1.50	12.0	12.0	LxWxH 31x18x34	S10
7.5M8x8-1.5x1.5	7.5	64	1.50	1.50	12.0	12.0		
10M8x8-1.2x1.2	10	64	1.20	1.20	9.6	9.6		
15M8x8-1.2x1.2	15	64	1.20	1.20	9.6	9.6		

Part Number	Frequency (M Hz)	Number of Elements	Pitch (mm)	Active Aperture (mm)	Elevation (mm)	Active Aperture Secondary Axis (mm)	External Dimensions (mm)	Casing Type
5M8x8-1.0x1.0	5	64	1.00	1.00	8.0	8.0	LxWxH 29x16x38	S11
7.5M8x8-0.8x0.8	7.5	64	0.80	0.80	6.4	6.4		
10M8x8-0.6x0.6	10	64	0.60	0.60	4.8	4.8		
15M8x8-0.6x0.6	15	64	0.60	0.60	4.8	4.8		

1.5D | Dual 1.5D matrix Series

Part Number	Frequency (M Hz)	Number of Elements	Pitch (mm)	Active Aperture (mm)	Elevation (mm)	Active Aperture Secondary Axis (mm)	External Dimensions (mm)	Casing Type
2.25DM7x4-2.8x3	2.25	56	2.80	3.00	19.6	12.0	LxWxH 34x16x25	S31
4DM16x2-1.0x3	4	64	1.00	3.00	16.0	6.0		
5DM16x2-1.0x3	5	64	1.00	3.00	16.0	6.0		

Connection Part

Connector

D3(Omniscan Connector)

D4(Phasor Connector)

D5(Connec 78PIN)

D6(Hypertronics 160 PIN)

D7(Topaz/Zircon)

D8(ITT CANNON 96PIN)

Cable

Cable Type	50 Ohm coaxial cable with dual shield				
Probe Elements	16	32	64	128	192
Diameter of Cable	4.6 mm	5.0 mm	6.3 mm	7.6 mm	8.0 mm
Color	Black				
Jacket Material	PVC/PU halogen-free				

- Long service life cables
- Low signal attenuation
- Good flexibility
- Great-mechanical
- Performance

Cable Protector

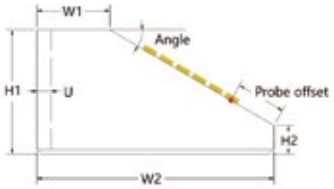
	Polyamide kevlar covering	Plastic ringed covering	Metallic braid	Metallic ringed covering
				
Resistance to rubbing, pinching and cutting	●	●●	●	●●●
Resistance to compression		●		●
Waterlightness		●		
Eletromagnetic field shielding			●	●

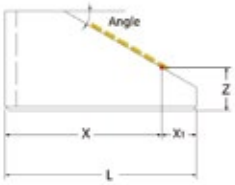
Wedge

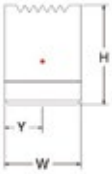
Types

- Available in standard refracted angles of 0°, 45°, 55°, and 60° in steel for angle-beam inspections from 30° to 70°, SW or LW
- Stainless steel screw receptacles provide a firm anchoring of probe to wedge
- Wedges are available with IHC options: irrigation, holes, and carbide pins (for wear resistance)
- Wedges are designed to perform manual or automated scans (IHC)
- Wedges with specific refracted angles can be customized; wedge shape and contour can also be customized

Parameters





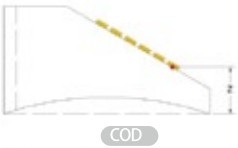


	Wedge Parameters with ISONIC
W2	The length of wedge
Probe offset	The distance from center of the first elment to edge
H2	The minimum height of wedge

	Wedge parameters with OmniScan
X	Primary axis offset of the middle of the first element (mm) (starting point is rubber)
Y	Secondary axis offset of the middle of the first element(mm) (0 when probe is centered)
Z	Height of the middle of the first element (mm)

	Wedge parameters with TomoView
X_T	Primary axis offset of the middle of the first element
Y	Secondary axis offset of the middle of the first element(mm) (0 when probe is centered)
Z	Height of the middle of the first element (mm)

Omniscan/Tomoview



Test Report

Test report is supplied with every probe. This form contains following contents:

eintik

Report Number	OS-JS-011
Paginal Number	4

PROBE TEST REPORT

Description: Linear Array , 5L64-0.5X10-S15-F2.5-D3

Part Number: 1024 Serial Number: 1024AH009

Tester: PQC003

Date: 2018 / 9 / 30

Approver: OQC002

Date: 2018 / 9 / 30

M2 Electronics (Shanghai) Co.,Ltd.

Phone: 86 21 69931069

Website: www.m2prode.com Mail: sales@m2prode.com

: No.9 Building, 258 Yinlong Road, Jiading District, Shanghai,China.

eintik

Description:5L64-0.5X10-S15-F2.5-D3

Serial Number: 1024AH009

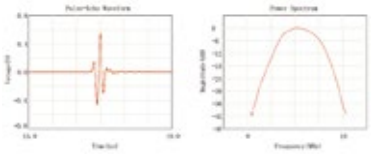
Probe Information Summary

Center Frequency	5 MHz	Housing	S15
Probe Type	Linear Array	Cable Jacket	PU, halogen free
Number of channels	64	Cable Capataince	60 pF/m
Elementary Pitch	0.50mm	Cable Length	2.5 m
Elevation	10.0mm	Connector Type	D3
Matching Medium	Rexolite		

Measurement Conditions

Generator	5077 PIR	Oscillograph	Tek DPO3012
Pluser Voltage	100 V	Gain	0 dB
Test Medium	20 mm Rexolite	Waveform Generator	DG4102

Signal Frequency Content



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Description: 5L64-0.5X10-S15-F2.5-D3

Serial Number: 1024AH009

Probe Conformance Summary

Parameters	AVG	MAX	MIN	RANGE
Peak-peak Sensitivity(dB)	-40.67	-40.22	-41.17	0.95
Center Frequency (MHz)	5.21	5.26	5.15	0.11
Relative Bandwidth(%)	77.89	79.87	76.48	3.39
Pulse Length(ns)	355.61	370	350	20

Parameters	Measurement	Criteria of conformity	Conformance
Center Frequency (-6dB)	5.21	5±0. 5 MHz	Yes
Relative Bandwidth	77.89 %	>60 %	Yes
Pulse Length(-20 dB)	355.61	<700 ns	Yes
Peak-peak Sensitivity	-40.67	>-44.0 dB	Yes
Homogeneity	0.95	<4 dB	Yes
Inter element crosstalk	-32.03	<-30 dB	Yes

Probe Cable Order Checked and Verified	Yes
Probe Uncoupled Response Checke and Verified	Yes

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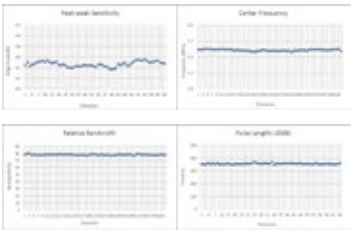
Description: 5L64-0.5X10-S15-F2.5-D3

Serial Number: 1024AH009

Probe Homogeneity



Using Conditions and Warranty Information

Ultrasonic Transducer offers a one-year warranty on all the phased-array transducers sold .

The warrnaty excludes defects and deterioration due to normal wear and tear,or caused by and external accident such as:

- Incorrect assembly - Poor maintenance - Use of unqualified couplant
- Pressure & watertightness: 1 hour per day under 50cm of water for contact probes (standard design)
  24 hours per day under 1m of water for immersion probes (standard design)
- Temperature: -20° to 60°C (storage)
  10 to 40°C (operation)
- Excessive voltage : Negative pulse 200V maximum
- Max repetition frequency: <10 kHz

Customized Probe

Eintik can manufacture customized phased array probes to accommodate specific applications and geometries. To develop your customized probe, we need to know:

- Application
- Comparable UT single element transducer
- Frequency
- Number of elements, pitch, and elevation
- Array shape (flat, curved)Curved in active dimension
- Curved in passive dimension (elevation focused)
- Casing type (S series,A series,others)
- Cable jacket required
- Cable length
- Connector style

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sales@eintik.com

*All specifications are subject to change without notice.