

IEPE constant current powered MICROPHONES



(* ICP™, IEPE, DeltaTron™, CCP, ISOTRON™ compatible)

EMM-07D146 series

(* ICP™, IEPE, DeltaTron™, CCP, ISOTRON™ compatible)

¼" (7mm) array type microphone with SMA or SMB-receptable Heavy Duty Version

- operates from constant current power. Ideal microphone for large count sound field measurements (acoustic holography) as well as single channel measurements.

prepared for **TEDS** (Transducer Electronic Data Sheet)

- long cable drive capability
- integral preamp
- small and rugged
- large dynamic range
- stainless steel housing
- individual calibration chart



¼" Frontend



SMA connector option
(threaded connector)



SMB connector option
(snap-on connector)

SPECIFICATIONS EMM-07D146/#-CCP/#-T *Values for: 4mA CCP; 21V excitation voltage; 23°Celsius*

PERFORMANCE

Frequency Response	Free-Field
Polarization Voltage	Prepolarized
Nominal Sensitivity @1kHz	See order info
Microphone Polarity	See order info
Frequency Response calibrated	10...20.000
Frequency Response ± 1dB	50...8000 Hz
± 2dB	20...12000
± 3dB	10...18000
Phase Match 100-5000 Hz	± 5°
Inherent Noise 100-10000 Hz	<30dB typ.
Inherent Noise 1/3 Oct.	<15dB typ.

Dynamic Range (3% distortion) typ. See order info

ELECTRICAL

Constant Current Power	2...20 mA
Constant Current Power nominal	4 mA
Excitation Voltage	18...30V
Output Bias Voltage	7 ± 2 V
Output Impedance	<10 Ω
Phantom Power (requires XLRmale to BNC connector adapter)	12...52Vdc

ENVIRONMENTAL

Operating Temperature	-10...+55°
Storage Temperature	-20...+70°
Operating Humidity	0...90%r.H.
Axial Vibration Sensitivity	~ 50dB

PHYSICAL

Housing Material	Stainless Steel
Sealing	Polyurethane/Epoxy
Output Connector	SMB coaxial socket
Dimensions	Ø ¼"(7mm) x 4"(146mm)
Weight	0.8 oz (25g)

CONFORMITY

IEC 61000-6-1

SPECIAL FUNCTIONALITY

TEDS (IEEE 1451.4)	Template 27 prog.
ESD protection	30kV

Ordering information : EMM-07D146-series

Order No.	Name	Sensitivity, typ. mV @ 94dBspl	Max. SPL, 3% distortion limit	Signal polarity	Connector
130010	EMM-07D146/S-CCP/A-T	30	125 (130)	inverting	SMA
130013	EMM-07D146/S-CCP/B-T	30	125 (130)	inverting	SMB
130011	EMM-07D146/H-CCP/A-T	6	140 (145)	Non-inverting	SMA
130012	EMM-07D146/H-CCP/B-T	6	140 (145)	Non-inverting	SMB

EMM-13D082 series

(* ICP™, IEPE, DeltaTron™, CCP, ISOTRON™ compatible)



1/4" - 1/2" body, BNC receptable.

- long cable drive capability
- integral preamp
- small and rugged
- **large dynamic range**
- **stainless steel housing**
- **individual calibration chart**
- **Phantom Power compatible**

For more technical data see EMM-7101 series microphone. Differs only in size and connector.

Ordering information : EMM-13D082-series

Order No.	Name	Sensitivity, typ. mV @ 94dBspl	Signal polarity	Max. SPL, 3% distortion limit
130021	EMM-13D082/H-CCP/C-T	6	Non-inverting	140 (145)
130020	EMM-13D082/S-CCP/C-T	30	inverting	125 (130)

SPECIFICATIONS EMM-13D082/#-CCP/#-T

Values for: 4mA CCP; 21V excitation voltage; 23°Celsius

PERFORMANCE

Frequency Response	Free-Field
Polarization Voltage	Prepolarized
Nominal Sensitivity @1kHz	See order info
Microphone Polarity	See order info
Frequency Response calibrated	10...20.000
Frequency Response ± 1dB	50...8000 Hz
± 2dB	20...12000
± 3dB	10...18000
Phase Match 100-5000 Hz	± 5°
Inherent Noise 100-10000 Hz	<30dB typ.
Inherent Noise 1/3 Oct.	<15dB typ.

Dynamic Range (3% distortion) typ. See order info

ELECTRICAL

Constant Current Power	2...20 mA
Constant Current Power nominal	4 mA
Excitation Voltage	18...30V
Output Bias Voltage	7 ± 2 V
Output Impedance	<10 Ω
Phantom Power (requires XLRmale to BNC connector adapter)	12...52Vdc

ENVIRONMENTAL

Operating Temperature	-10...+55°
Storage Temperature	-20...+70°
Operating Humidity	0...90%r.H.
Axial Vibration Sensitivity	~ 50dB

PHYSICAL

Housing Material	Stainless Steel
Sealing	Polyurethane/Epoxy
Output Connector	SMB coaxial socket
Dimensions	Ø 1/4" (7mm) x 3 1/4" (82mm)
Weight	1,1 oz (35g)

CONFORMITY

IEC 61000-6-1

SPECIAL FUNCTIONALITY

TEDS (IEEE 1451.4)	Template 27 prog.
ESD protection	30kV

EMM-7101 series

(* ICP™, IEPE, DeltaTron™, CCP, ISOTRON™ compatible)



TYPICAL APPLICATIONS

- ✓ Multi-channel measurements
- ✓ Single-channel measurements
- ✓ Sound-power and sound-field analysis
- ✓ Low-cost in-car measurements
- ✓ Industrial Acoustics

The iSEMcon® Array Microphone EMM-7101-CSTB is an economically priced prepolarized microphone for single and multi channel measurements in arrays and matrices. It is a full featured product with integrated CCP-Preamplifier and programmed TEDS-chip (Template 27). The long 4" body minimizes the sound field influence from holding clamp or array mechanics.

ACTUAL SIZE

works from
Constant Current Power (CCP)
Phantom Power (PH)
By the use of an connector adapter
(no signal converter necessary)

FEATURES CSTB-Version

- ✓ Frequency range **10...20000Hz**
- ✓ Sensitivity **30mV/Pa** typ.
- ✓ Signal polarity: positive
- ✓ Dynamic range 30... >125dBspl
- ✓ 3% distortion limit **>130dBspl** typ.
- ✓ Built-in **TEDS** (template 27)
- ✓ **Calibration** chart and data included on CD
- ✓ Excellent amplitude and phase matching
- ✓ **SMB** connector
- ✓ **CCP or Phantom Power**
- ✓ Dimensions: diameter ¼" (7mm) length w/ connector 4" (101mm)
- ✓ Weight **0.3oz (9grams)**

DIFFERENCE CHTB Version

- ✓ Sensitivity **6mV/Pa** typ.
- ✓ Signal polarity: positive
- ✓ Dynamic range 30... >140dBspl
- ✓ 3% distortion limit **>145dBspl** typ.

SPECIFICATIONS

Values for: 4mA CCP; 21V excitation voltage; 23°

PERFORMANCE

Frequency Response	Free-Field
Polarization Voltage	Prepolarized
Nominal Sensitivity @1kHz	See order info
Microphone Polarity	See order info
Frequency Response calibrated	10...20.000
Frequency Response ± 1dB	50...8000 Hz
± 2dB	20...12000
± 3dB	10...18000
Phase Match 100-5000 Hz	± 5°
Inherent Noise 100-10000 Hz	<30dB typ.
Inherent Noise 1/3 Oct.	<15dB typ.

Dynamic Range (3% distortion) typ. See order info

ELECTRICAL

Constant Current Power	2...20 mA
Constant Current Power nominal	4 mA
Excitation Voltage	18...30V
Output Bias Voltage	7 ± 2 V
Output Impedance	<10 Ω
Phantom Power (requires XLRmale to BNC connector adapter)	12...52Vdc

ENVIRONMENTAL

Operating Temperature	-10...+55°
Storage Temperature	-20...+70°
Operating Humidity	0...90%r.H.
Axial Vibration Sensitivity	~ 50dB

PHYSICAL

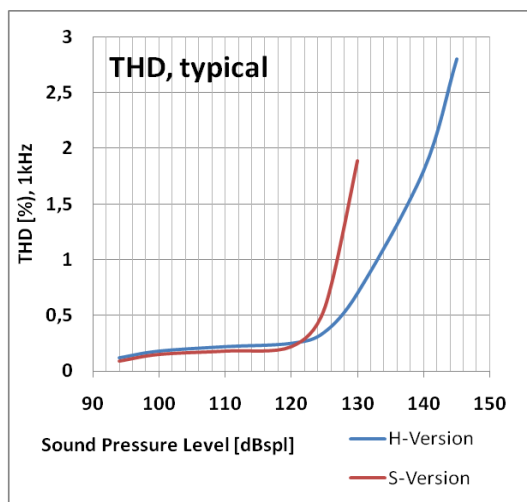
Housing Material	Stainless Steel
Sealing	Polyurethane/Epoxy
Output Connector	SMB coaxial socket
Dimensions	Ø ¼"(7mm) x 4"(101mm)
Weight	0.3 oz (9g)

CONFORMITY

IEC 61000-6-1

SPECIAL FUNCTIONALITY

TEDS (IEEE 1451.4)	Template 27 prog.
ESD protection	30kV



The iSEMcon® EMM-7101-C#T# series consists of a special ICP and Phantom Power compatible circuitry. The built-in prepolarized microphone cartridge controls an AC/DC-Zener Diode circuitry with an output impedance as low as 10 Ohms (as per circuitry simulation). This is very unique and new in the market and makes the microphone compatible to Constant Current power (ICP) as well as Phantom Power without loss in functionality and signal quality and almost independent from source impedance. It also has a TEDS EEPROM built-in being fully compatible with the IEEE1451.4 standard.

Data as per IEEE 1451.4

TEDS IC:DS2431 Serial:0000028DFD06

Basic TEDS

Check Sum:C9 Version letter:@

Manu ID: Version number:1

Model No: 30010 Serial number: 121001

Standard Template TEDS

Selector:0 Polarity :positive

Template:27 Mapping :0

Sel Case:0 Sig Type :0

Sens :30,9 AC/DC :1

Ref Freq:989 Cal Date :23.12.2010

Polar :Prepolarized Cal init :FRA

Sel Case:0 Cal period:0

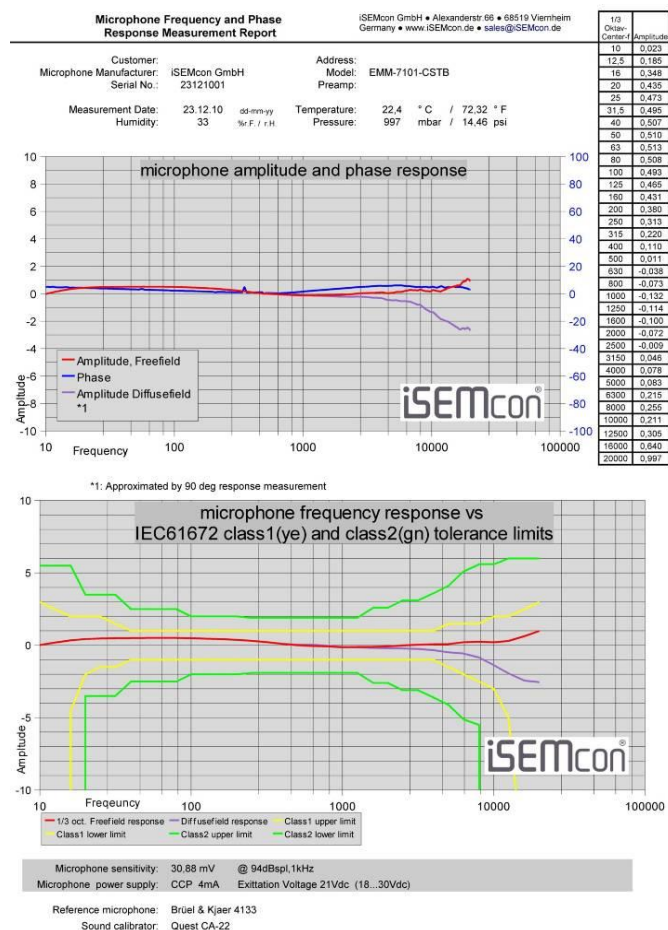
Mic Type:Free Loc ID :0

Mic Size:1/4" Selector :3

Volume :0 End Select:0

Sel Case:0

The microphone powers from Constant Current Power (ICP™, IEPE, DeltaTron™, CCP, ISOTRON™, AcoTron™ compatible *1) or from Phantom Power (12..52Vdc) by the use of an XLR to BNC connector adapter or XLR to SMB cable



Power Source	18V	21V	30V	
ICP 2mA	30,18mV	30,22mV	30,31mV	
ICP 4mA	30,37mV	30,46mV	30,52mV	
ICP 10mA	30,64mV	30,78mV	30,82mV	
Phantom 48V / 6,8kΩ				30,60mV
Phantom 24V / 2,4kΩ				30,49mV
Phantom 12V / 2,4kΩ				29,93mV

The microphone does not require an electronic signal converter. There are no limitations in functionality or loss in signal quality while being powered from Phantom Power.

Microphone sensitivity is almost independent from power source (less than 1 dBmV)

Note: While applying phantom power the TEDS functionality is not available

Ordering information : EMM-7101-series

Order No.	Name	Sensitivity, typ. mV @ 94dBspl	Max. SPL, 3% distortion limit	Signal polarity	Connector
130014	EMM-7101/S-CCP/B-T	30	125 (130)	inverting	SMA
130015	EMM-7101/H-CCP/B-T	6	140 (145)	Non inverting	SMA

EMM-18D003 series

(* ICP™, IEPE, DeltaTron™, CCP, ISOTRON™ compatible)

The iSEMcon Surface Microphone is a low-cost microphone for general purpose measurements on almost flat surfaces exposed to slip stream.

- Diameter 18mm
- Height 3.2mm



Applications

- Wind-induced noise on ground and airborne vehicles
- Acoustic radiation from surfaces
- Noise tests in wind tunnels

Features

- Low sensitivity to base bending
- Dust protected
- Built-in CCP preamplifier with TEDS
- Light weight
- Choice between two (2) optional fairings



screw down fairing option



compact fairing for use with self-adhesive tape, wax or glue.

Ordering information : EMM-07D146-series

Order No.	Name	Sensitivity, typ. mV @ 94dBspl	Max. SPL, 3% distortion limit	Connector
130030	EMM-18D003/S-CCP/2mC-T	30	120 (125)	1m pigtail - BNC

SPECIFICATIONS EMM-18D003/#-CCP/#-T *Values for: 4mA CCP; 21V excitation voltage; 23°Celsius*

PERFORMANCE

Frequency Response	Free-Field
Polarization Voltage	Prepolarized
Nominal Sensitivity @1kHz	30mV/Pa
Microphone Polarity	Non-Inverting
Frequency Response calibrated	10...20.000
Frequency Response ± 1dB	50...8000 Hz
± 2dB	20...12000
± 3dB	10...18000
Phase Match 100-5000 Hz	± 5°
Inherent Noise 100-10000 Hz	<30dB typ.
Inherent Noise 1/3 Oct.	<15dB typ.
Dynamic Range (3% distortion) typ.	131 dBspl

ELECTRICAL

Constant Current Power	2...20 mA
Constant Current Power nominal	4 mA
Excitation Voltage	18...30V
Output Bias Voltage	7 ± 2 V
Output Impedance	<10 Ω
Phantom Power (requires XLRmale to BNC connector adapter)	12...52Vdc

ENVIRONMENTAL

Operating Temperature	-10...+55°
Storage Temperature	-20...+70°
Operating Humidity	0...90%r.H.
Axial Vibration Sensitivity	~ 50dB

PHYSICAL

Housing Material	Stainless Steel
Sealing	Polyurethane/Epoxy
Output Connector	SMB coaxial socket
Dimensions	Ø 0.7 "(18mm) x 1/8" (3,2
Weight	0.7 oz (20g)

CONFORMITY

IEC 61000-6-1

SPECIAL FUNCTIONALITY

TEDS (IEEE 1451.4)	Template 27 prog.
ESD protection	30kV