



Signal Conditioners for AC LVDT's | Cards and Modules

AG Measurement is one of the largest manufacturer of LVDTs. A comprehensive line of Signal Conditioner products for AC LVDTs allow user to obtain voltage or current proportional to core rod displacement of AC LVDTs.

These signal conditioners have been designed to accept AC LVDTs of any standard make or model and are suitable in many different applications. They essentially incorporate sinusoidal excitation oscillator, signal amplifier, phase sensitive demodulator, low-pass filter and output scaling stage amplifier to provide voltage or 4 to 20 mA output proportional to the core-rod displacement of the connected LVDT.

Here is a summary of presently available standard models. Custom-designed electronics is offered for an application not covered through these standard models.

+/- 15 VDC operated OEM cards

Signal Conditioner card with voltage output	AC301
Signal Conditioner card with 4 to 20 mA output	AC302
High Performance Signal Conditioner Card	AC304

Mains operated Signal Conditioner Modules

General purpose, Voltage output	AI-301-230M
General purpose, 4 to 20 mA output	AI-301-230M-A
High performance, voltage output	AI-304-230M
High performance, 4 to 20 mA output	AI-304-230M-A

24 V DC operated Signal conditioner modules

General purpose, voltage output	AI-301-24S
General purpose, 4 to 20 mA output	AI-301-24S-A
High performance, voltage output	AI-304-24S
High performance, 4 to 20 mA output	AI-304-24S-A

+/- 15 V operated DC operated Signal conditioner modules

General purpose, voltage output	AI-301-15D
General purpose, 4 to 20 mA output	AI-301-15D-A
High performance, voltage output	AI-304-15D
High performance, 4 to 20 mA output	AI-304-15D-A

24 V DC operated In-line Signal conditioner modules

Voltage output, General Purpose	AI 305
Voltage output high performance	AI 306

General purpose, General Purpose Signal Conditioner Card

Model: AC 301

Card size: 160 x 100 mm

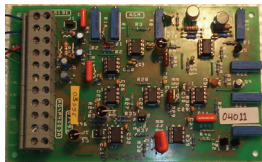
Power source:
+/- 15 VDC (Dual supply)

Acceptable transducer:
3-/4-/5- or 6-wire AC LVDT

Input/ output/ power termination:
large screw terminals.

LVDT excitation:
Factory set to 2V rms, 2kHz.

Can be set from 1.6 to 2.4 v rms through on- board trim-pot.
Against special orders this card can be supplied with factory setting of excitation voltage up to 5 V rms and any frequency from 1kHz to 3 kHz.



Voltage output:

Can be set to any voltage up to +/-10 volt corresponding to full stroke range of the connected LVDT through on-board trim-pot.

Phase-lag/lead adjust: Through on- board trim-pot.

Zero adjust: Output voltage can be set to zero volt at any position of the core-rod within the full stroke range of the connected LVDT.

Frequency response: 0 to 100 Hz (less 3 dB)

General Purpose Signal Conditioner Card with 4-to-20 mA output

Model: AC-302

Card size: 160 x 100 mm

Power source: +/- 15 VDC (Dual supply)

Acceptable transducer: 3-/4-/5- or 6-wire AC LVDT

Input/ output/ power termination:
large screw terminals.

LVDT excitation: Factory set to 2V rms, 2kHz.

Can be set from 1.6 to 2.4 v rms through on- board trim-pot.

Against special orders this card can be supplied with factory setting of excitation voltage up to 5 V rms and any frequency from 1kHz to 3 kHz.

Current output:

Can be set to 4-to-20 mA corresponding to full stroke range of the connected LVDT through on-board trim-pot.

Phase-lag/lead adjust: Through on- board trim-pot.

Zero adjust: Output voltage can be set to zero volt at any position of the core-rod within the full stroke range of the connected LVDT.

High Performance Signal Conditioner Card

Model: AC 304

This is a new generation LVDT signal conditioner card designed for accurate signal conditioning of AC LVDT signals. It converts LVDT core rod movement into proportional voltage. Low distortion sinusoidal excitation oscillator results in very low minimum voltage at mid-stroke.



Temperature related output drift is eliminated through **ratio-metric signal conversion technique**. Due to its very small size it can be accommodated easily in any measurement and control system.

Card size: 62 x 58 mm

Power source: +/- 15 VDC (Dual supply)

Acceptable transducer: 3-/4-/5- or 6-wire AC LVDT

Input/ output/ power termination: Screw terminals

LVDT excitation:
Sine-wave; Factory set to 2.V rms, 2kHz,

Voltage output:

Corresponding to full stroke range of the connected LVDT the output voltage can be set to any of the following – 0 to 5 V, to + 10 V, 0 to -10 V through on-board jumpers

Zero adjust: On-board trim pot

Frequency response: 0 to 300 Hz (less 3 dB)

Model: AC 304-ee card has facility to connect an external oscillator for exciting the LVDT primary.

**Mains operated Signal Conditioner Module****Model: AI-301-230M and AI-301-230M-A****Box size:** Panel mounting construction—192 x 96 x 200 mm**Power source:** 230 V +/- 10%, 50 Hz**Acceptable transducer:**

3-/4-/5- or 6-wire AC LVDT

Input/ output termination: Connectors**LVDT excitation:**

Factory set to 2V rms, 2kHz.

Can be set from 1.6 to 2.4 v rms through on- board trim-pot.

*Against special orders this card can be supplied with factory setting of excitation voltage up to 5 V rms and any frequency from 1kHz to 3 kHz.***Voltage output:**

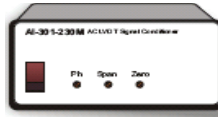
Can be set to any voltage up to +/-10 volt corresponding to full stroke range of the connected LVDT through panel mounted screw driver control.

Phase-lag/lead adjust:

Through panel mounted screw-driver control.

Zero adjust:

Output voltage can be set to zero volt through panel mounted screw-driver control at any position of the core-rod within the full stroke range of the connected LVDT

Frequency response: 0 to 100 Hz (less 3 dB)**Model AI-301-230M-A** can be set to provide 4 to 20 mA output corresponding to full stroke of connected LVDT.**High performance****Mains operated Signal Conditioner Module****Model: AI-304-230M and AI-304-230M-A**

This mains operated module incorporates high performance AC LVDT signal conditioner card — AC 304.



It converts LVDT core rod movement into proportional voltage. Low distortion sinusoidal excitation oscillator results in very low minimum voltage at mid-stroke.

Temperature related output drift is eliminated through **ratio-metric signal conversion technique**.

AI-304-230M provides voltage output

AI-304-230M-A provides voltage as well as 4 to 20 mA output.

Box size: 192 x 96 x 200 mm**Power source:** 230 V +/- 10%, 50 Hz**Acceptable transducer:** 3-/4-/5- or 6-wire AC LVDT**Input/ output termination:** Connectors**LVDT excitation:** Factory set to 2V rms, 2kHz.**Voltage output:**

Corresponding to full stroke range of the connected LVDT the output voltage can be set to any of the following – 0 to 5 V, to + 10 V, 0 to -10 V through on-board jumpers

Zero adjust: On-board trim pot**Frequency response:** 0 to 200 Hz (less 3 dB)**Model AI-304-230M-A** can be set to provide 4 to 20 mA output corresponding to full stroke of connected LVDT.**24 V Operated Signal Conditioner Module****Model: AI-301-24S and AI-301-24S-A**

These modules are generally used in process plants and battery powered applications.

Box size: Panel Mounting construction — 192 x 96 x 200 mm**Power source:** 24 VDC (Nom); Range 18 to 36 VDC**Acceptable transducer:** 3-/4-/5- or 6-wire AC LVDT**Input/ output termination:** Connectors**LVDT excitation:**

Factory set to 2V rms, 2kHz.

Can be set from 1.6 to 2.4 v rms through on- board trim-pot.

*Against special orders this card can be supplied with factory setting of excitation voltage up to 5 V rms and any frequency from 1kHz to 3 kHz.***Voltage output:**

Can be set to any voltage up to +/-10 volt corresponding to full stroke range of the connected LVDT through panel mounted screw driver control.

Phase-lag/lead adjust:

Through panel mounted screw-driver control.

Zero adjust:

Output voltage can be set to zero volt through panel mounted screw-driver control at any position of the core-rod within the full stroke range of the connected LVDT

Frequency response: 0 to 100 Hz (less 3 dB)**Model AI-301-24S-A** can be set to provide 4 to 20 mA output corresponding to full stroke of connected LVDT.**High Performance****24 V Operated Signal Conditioner Module****Model: AI-304-24S and AI-304-24S-A**

Housed in small sized box these modules incorporate high performance AC LVDT signal conditioner card — AC 304.

Box size: 110 x 97 x 40 mm**Acceptable transducer:** 3-/4-/5- or 6-wire AC LVDT**Input/ output/ power termination:** Connectors**Power source:** 24 VDC (Nom) Range — 18 to 36 VDC**LVDT excitation:** Sine-wave; Factory set to 2 V rms, 2 kHz,**Voltage output:**

Corresponding to full stroke range of the connected LVDT, the output voltage can be set to – 0 to 5 V, 0 to + 10 V or 0 to -10 V, through on-board jumpers

Phase-lag/lead adjust: Through on- board trim-pot.**Zero adjust:** On-board trim pot**Frequency response:** 0 to 200 Hz (less 3 dB)**Model AI-304-24S-A** can be set to provide 4 to 20 mA output corresponding to full stroke of connected LVDT.

**+/- 15V operated Signal Conditioner modules****Model: AI-301-15D and AI-301-15D-A****Box size:** 120 x 185 x 35 mm**Power source:**

+/- 15 VDC (Dual supply)

Acceptable transducer:

3-/4-/5- or 6-wire AC LVDT

Input/ output termination: Connectors**LVDT excitation:** Factory set to 2V rms, 2kHz.

Can be set from 1.6 to 2.4 v rms through on- board trim-pot.

*Against special orders this card can be supplied with factory setting of excitation voltage up to 5 V rms and any frequency from 1kHz to 3 kHz.***Voltage output:**

Can be set to any voltage up to +/-10 volt corresponding to full stroke range of the connected LVDT through panel mounted screw-driver control.

Phase-lag/lead adjust:

Through panel mounted screw-driver control

Zero adjust:

Output voltage can be set to zero volt through panel mounted screw-driver control at any position of the core-rod within the full stroke range of the connected LVDT.

Frequency response: 0 to 100 Hz (less 3 dB)**Model AI-301-15D-A** can be set to provide 4 to 20 mA output corresponding to full stroke of connected LVDT.**High Performance****+/- 15 V Operated Signal Conditioner Module****Model: AI-304-15D/AI-304-15D-A/ AI-304-15D-DIN**

Housed in small sized box these modules incorporate high performance AC LVDT signal conditioner card — AC 304. Also available in DIN rail Mounting module.

**Box dimensions :**

Table top : 110 x 97 x 40 mm;

DIN Rail Mounting: 62(w) x 71(d) x 111(h)

Acceptable transducer: 3-/4-/5- or 6-wire AC LVDT**Input/ output/ power termination:** Connectors**Power source:** +/- 15 VDC Dual power supply**LVDT excitation:** Sine-wave; Factory set to 2 V rms, 2 kHz,**Voltage output:** Corresponding to full stroke range of the connected LVDT, the output voltage can be set to – 0 to 5 V, 0 to + 10 V or 0 to -10 V, through on-board jumpers**Phase-lag/lead adjust:** Through on- board trim-pot.**Zero adjust:** On-board trim pot**Frequency response:** 0 to 200 Hz (less 3 dB)**Model AI-304-24S-A** can be set to provide 4 to 20 mA output corresponding to full stroke of connected LVDT.**In-line Signal Conditioner Modules****24 V operated General Purpose Model: AI-305 / AI-305-A**AI 305 modules are housed in a small 22 mm diameter cylindrical module. On its one side it connects to an AC LVDT through an integral one meter cable while on its other side it has an integral three meter cable with flying leads. Offering the advantage of a **24 VDC** operation with voltage output proportional to core rod movement, this module is very useful in applications where space for LVDT fixing is restricted and the signal conditioner has to be fixed close to the LVDT. It is a good alternative to DC LVDT with integral electronics as it overcomes the space restriction.**Module size:** 22 mm diameter, Cylindrical SS tube;100mm length**Power source:** 24 VDC (Nom); Range 18 to 36 VDC**Acceptable transducer:** 3-/4-/5- or 6-wire AC LVDT**Connection to LVDT:** 1 meter integral cable**Output termination:**

3 meter long integral cable from the other end of the housing.

Voltage output: Factory set to 0 to 5V, +/-5V or 0 to 10 V corresponding to full stroke range of the connected LVDT**24 V operated High Performance Model: AI 306**

AI-306 incorporates an advanced monolithic LVDT signal conditioner IC with ratiometric architecture and sinusoidal excitation. It provides high accuracy and very low temperature drift.

This module is also very useful in applications where space for LVDT fixing is restricted and the signal conditioner has to be fixed close to the LVDT.

Module size: 24 mm diameter cylindrical SS tube; 85 mm length**Power source:** 24 VDC; Nom. Range 18 to 36 VDC**Acceptable transducer:** 3-/4-/5- or 6-wire AC LVDT**Connection to LVDT:** Integral cable—1 meter**Output termination:** integral cable from other end of the housing - 3m**Voltage output:** Factory set to 0 to 5V, +/-5V or 0 to 10 V corresponding to full stroke range of the connected LVDT

Contact AGMPL if customized electronics is required

As a result of continuous development these specifications are subject to change without notice .www.agmpl.com**AG Measurement Pvt. Ltd.****Global Headquarters:**

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