

# 4 DIGIT PROCESS INDICATOR

MODEL : PI – 542A



## INTRODUCTION

**SANSEL offers PI 542A Model PROCESS INDICATORS are extremely versatile Indicators that can be used for a wide variety of applications in all type of process industries. These INSTRUMENT offer extreme reliability and low cost for Process measurement and logging. PI 542A is a Microprocessor based indicator ensures accurate readings for all Linear Parameters. A number of programmable features including In-line calibration are standard. All the parameters are saved in a non volatile EEPROM memory which doesn't needs any external battery. PI 542A can offer relay outputs for signals exceeding set points, Programmable current or voltage Re-Transmission output models are also available in addition to the industry standard 4 -20mA or 0 - 10V DC output. Optional RS 485 (2 wire ) output also provided for PC communication with PC Interface software & also with MODBUS RTU protocol.**

# Applications

Monitoring, recording, controlling in all types of process industries for the following applications,

- |                                             |                                                    |
|---------------------------------------------|----------------------------------------------------|
| <input type="checkbox"/> Temperature        | <input type="checkbox"/> Flow                      |
| <input type="checkbox"/> Humidity           | <input type="checkbox"/> Level                     |
| <input type="checkbox"/> Pressure           | <input type="checkbox"/> Voltage / Current / Power |
| <input type="checkbox"/> pH / ORP           | <input type="checkbox"/> Resistance and more...,   |
| <input type="checkbox"/> TDS / Conductivity |                                                    |

## FEATURES

- ✓ 4 digit 7 segment RED LED display
- ✓ High accuracy
- ✓ Compact size
- ✓ 24 Bit ADC resolution
- ✓ Universal inputs RTD, Thermocouples, mA, mV, voltage, Ohms
- ✓ Wide selectable display range between -1999 to 9999 counts
- ✓ Easy field configurable with front key calibration
- ✓ No hardware selection for the input signals
- ✓ Optional opto isolated Re-transmission output
- ✓ Optional RS 485 (2 wire) output for PC communication with MODBUS RTU protocol
- ✓ Optional PC software with monitoring, logging, report & graph
- ✓ 24V DC external sensor supply
- ✓ Programmable decimal point & display noise filter
- ✓ Universal supply voltage 90 to 270 AC / DC

## Specifications

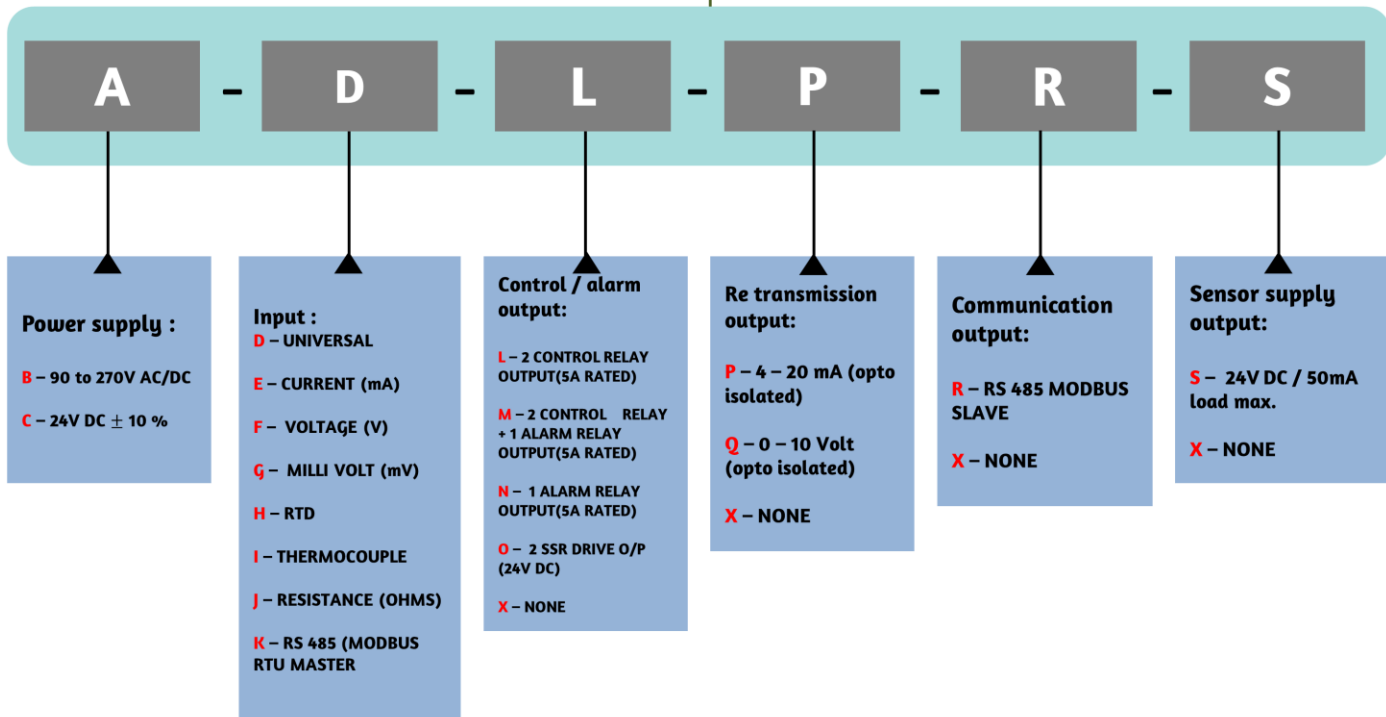
| Model                                           | PI – 542A                                                                                                                                                                                                                                                             |
|-------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Display                                         | 4 Digit, 0.5" 7 segment RED LED                                                                                                                                                                                                                                       |
| Analog inputs                                   | 0 - 20 mA, 0 to 70 mV, 0 - 10 V DC, 0.0 – 400.0 $\Omega$ (H & L Limit Programmable)                                                                                                                                                                                   |
| Temperature inputs                              | RTD - PT 100, Thermocouple - J, K, R, S, T, B, N, E                                                                                                                                                                                                                   |
| Display range                                   | -1999 to 9999 counts (H & L Limit programmable)                                                                                                                                                                                                                       |
| Temperature range<br>(H & L Limit programmable) | RTD - PT 100 (-199.9 to 800.0°C )<br>TC - J (- 200 to 200°C )<br>TC - K (- 200 to 1372°C )<br>TC - R ( 0 to 1765°C )<br>TC - S ( 0 to 1762°C )<br>TC - T (- 199.9 to 400.0°C )<br>TC - B ( 600 to 1800°C )<br>TC - N (-200 to 1300°C )<br>TC - E (-199.9 to 916.0°C ) |
| Accuracy                                        | 0.05% FS $\pm 1$ counts (Except Thermocouple)<br>0.05% FS $\pm 2$ counts (only for Thermocouple)                                                                                                                                                                      |
| Unit selection                                  | °C / °F (for RTD & TC inputs)                                                                                                                                                                                                                                         |
| Analog input resolution mV, mA & V              | 0.001 / 0.01 / 0.1 / 1 (Selectable)                                                                                                                                                                                                                                   |
| Temperature resolution                          | 0.01 (For RTD - PT 100 input (°C) only) / 0.1 / 1 °C / °F                                                                                                                                                                                                             |
| Filter constant                                 | 1 – 100% (adjustable)                                                                                                                                                                                                                                                 |
| Relay Output* (optional)                        | 2 Relay (5A rated) with 4 Relay Status Selection, Adjustable Hysteresis, Cyclic Delay                                                                                                                                                                                 |
| Re Transmission* (optional)                     | Opto Isolated Analog Output 4 - 20 mA or 0 - 10V DC                                                                                                                                                                                                                   |
| PC communication* (optional)                    | RS 485 (2 wire) MODBUS RTU protocol                                                                                                                                                                                                                                   |
| PC Software* (optional)                         | Monitoring, Data logging, Report & graph                                                                                                                                                                                                                              |
| Sensor Supply (external)                        | 24 V DC $\pm 10\%$ @ 100 mA                                                                                                                                                                                                                                           |
| Operating environment                           | 0 to 50°C / 5 to 95% RH non condensing                                                                                                                                                                                                                                |
| Power supply                                    | 90 to 270 V AC / DC / 50/60 Hz                                                                                                                                                                                                                                        |
| Overall Dimension                               | 48(H) X 96(W) X 110(D) mm                                                                                                                                                                                                                                             |
| Cut out Dimension                               | 44(H) x 90(W) mm                                                                                                                                                                                                                                                      |
| Housing                                         | Panel mountable ABS plastic                                                                                                                                                                                                                                           |
| Weight (Approx.)                                | 300 grams                                                                                                                                                                                                                                                             |

**NOTE:** Due to continuous improvement published specifications may change without notice

\*\* Relay & Retransmission or PC communication any one was possible in one PI 542A

# ORDERING INFORMATION FOR 4 DIGIT PROCESS INDICATOR

MODEL : PI 542A- A - D - L - P - R - S



| S.NO. | ERP Item code | ordering code       | power supply     | Display      | Input     | Control / alarm output           | Re transmission output    | Communication output | Sensor supply output    |
|-------|---------------|---------------------|------------------|--------------|-----------|----------------------------------|---------------------------|----------------------|-------------------------|
| 1     | FIQD-00041    | PI 542A-B-D-L-P-R-S | 90 to 270V AC/DC | 0.5" 4 DIGIT | UNIVERSAL | 2 CONTROL RELAY OUTPUT(5A RATED) | 4 - 20 mA (opto isolated) | RS 485 MODBUS SLAVE  | 24V DC / 50mA load max. |
| 2     | FIQD-00104    | PI 542A-B-D-L-X-X-S | 90 to 270V AC/DC | 0.5" 4 DIGIT | UNIVERSAL | 2 CONTROL RELAY OUTPUT(5A RATED) | NONE                      | NONE                 | 24V DC / 50mA load max. |
| 3     | FIQD-00105    | PI 542A-B-D-L-P-X-S | 90 to 270V AC/DC | 0.5" 4 DIGIT | UNIVERSAL | 2 CONTROL RELAY OUTPUT(5A RATED) | 4 - 20 mA (opto isolated) | NONE                 | 24V DC / 50mA load max. |
| 4     | FIQD-00106    | PI 542A-B-D-X-P-R-S | 90 to 270V AC/DC | 0.5" 4 DIGIT | UNIVERSAL | NONE                             | 4 - 20 mA (opto isolated) | RS 485 MODBUS SLAVE  | 24V DC / 50mA load max. |
| 5     | FIQD-00107    | PI 542A-B-D-X-P-X-S | 90 to 270V AC/DC | 0.5" 4 DIGIT | UNIVERSAL | NONE                             | 4 - 20 mA (opto isolated) | NONE                 | 24V DC / 50mA load max. |
| 6     | FIQD-00108    | PI 542A-B-D-X-X-R-S | 90 to 270V AC/DC | 0.5" 4 DIGIT | UNIVERSAL | NONE                             | NONE                      | RS 485 MODBUS SLAVE  | 24V DC / 50mA load max. |
| 7     | FIQD-00109    | PI 542A-B-D-X-X-X-S | 90 to 270V AC/DC | 0.5" 4 DIGIT | UNIVERSAL | NONE                             | NONE                      | NONE                 | 24V DC / 50mA load max. |



## SANSEL INSTRUMENTS AND CONTROLS SANSEL CALIBRATION LABORATORIES

ISO/IEC 17025 Accredited Calibration Laboratory by NABL CC - 2879  
( Thermal, Mechanical, Electro-Technical, Dimension Parameters )

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