



## **SERIES: MPR320**

- UNIVERSAL INPUTS
- 6 ANALOGUE INPUTS
- 12 RELAY OUTPUTS (OPTION)
- PROGRAMMABLE RECORDING
- DIGITAL INDICATION OF INPUTS
- RS-232 OR RS-485 COMMUNICATION
- SENSOR BREAK (BURNOUT) SIGNALING
- PRINTS ALARM OCCURRENCE WITH TIME
- PRINTOUT OF 24-HOUR REPORT ON THE CHART
- IP65 PROTECTION DEGREE ON THE FRONT PANEL
- PAPER-EMPTY DETECTION TO TRIGGER AN ALARM
- LINEARIZATION OF THE SENSOR CHARACTERISTICS
- SQUARE-ROOT CONVERSION OF THE INPUT SIGNALS
- AUTOMATIC COLD JUNCTION COMPENSATION (OPTION)
- EXTERNAL BINARY INPUT SIGNAL FOR CHART CONTROL
- COMPUTER PROGRAM FOR CONFIGURATION & ARCHIVING



### **INTRODUCTION**

Indumart MPR320 series of Digital Strip Chart Recorders are 144 x 144 mm instruments which accept six analogue inputs such as thermocouple, RTD, current, voltage or resistance on a 100 mm-wide roll or Z-fold chart paper. Values of the inputs are also indicated on the easy-to-read LED display.

Ten chart speeds are available between 5 and 600 mm/h. The user may set the chart rolling at a desired speed and with the aid of the three binary inputs, elect to START/STOP the chart or to alter the chart speed to another set value.

Chart annotation is a standard feature for the MPR320 recorders. It prints time, date, scaling, chart speed, process variable, engineering units and channel tags. It also prints alarm occurrence with the time on the chart to simplify trace interpretation.

The MPR320 recorder is capable of performing math function on the analogue inputs. It may also calculate the square root of an input signal.

Twelve alarm relays may be fitted to the recorder as an optional feature. The recorder is equipped with an alarm indicator, which lights up when any alarm is triggered.

The RS-232 communication is standard and can be used for sending data to a PC, etc. The RS-485 communication is an optional feature of the MPR320 recorders, which enables them to have up to 32 connections and be a part of measuring or control systems.

The MPR320 recorder is equipped with a detection system to notify the operator when a replacement chart is required. This feature detects paper-empty situation to output an alarm.

## SPECIFICATIONS

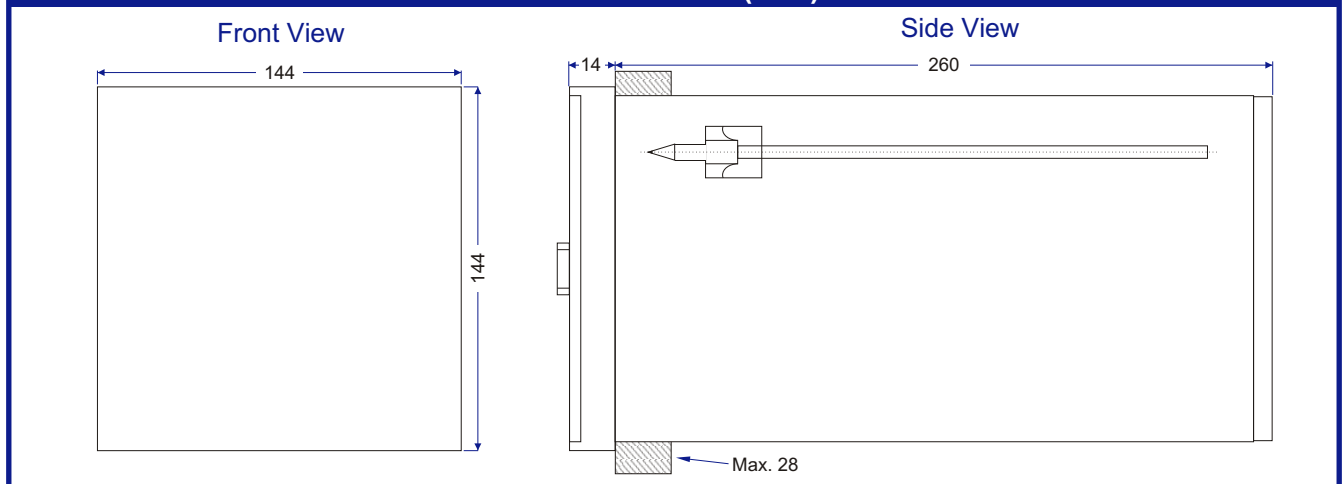
<b>Number of Inputs</b>	6 analogue (std), 3 digital
<b>Input Sampling</b>	0.5 second per channel
<b>Recording Mode</b>	Dot recording in 6 colours
<b>Accuracy</b>	0.5%
<b>Recording Paper</b>	100 mm width roll or Z-fold; roll 32 m & Z-fold 16 m long
<b>Paper Feed Speed</b>	0, 5, 10, 20, 30, 40, 60, 120, 240, 360 & 600 mm/h
<b>Recording Cycle</b>	0, 3, 6, 12, 24, 30, 60, 120, 240 sec.
<b>Input Impedance</b>	100 Ω for mA inputs
<b>Binary Input</b>	3 inputs; open or short circuit or TTL level signal
<b>Alarm</b>	12 relays (option)
<b>Contact Rating</b>	0.5 A @ 125 VAC or 30 VDC/AC
<b>Supply Voltage</b>	90...253 VAC, 45...65 Hz (std.) 18...30 VDC (option)
<b>Power Consumption</b>	15 VA, 22 VA when recording
<b>Communication</b>	RS-232 or RS-485 MODBUS
<b>Baud Rate</b>	1200...9600 bits/s
<b>Data Storage</b>	RAM memory with battery for a minimum of 4 years
<b>Data Buffer Capacity</b>	1.5 to 30 hours
<b>Front Panel Sealing</b>	IP-65
<b>Operating Temp.</b>	0...+50°C; -20...70°C without pen
<b>Servicing Safety</b>	According to IEC61010-1+A1
<b>Protection</b>	Class 1
<b>Electromagnetic</b>	
<b>Emission</b>	EN50081-2
<b>Immunity</b>	EN50082-2
<b>Dimensions</b>	144 x 144 x 260mm (WxHxD)
<b>Panel Cutout</b>	138 x 138 mm
<b>Weight</b>	4.3 kg

Input Type	Measuring Range	Min. Subrange
Current	0...±20 mA	1 mA
Voltage	0...±9999 mV	5 mV
"J" thermocouple	-200...1200°C	100°C
"K" thermocouple	-200...1370°C	130°C
"T" thermocouple	-200...400°C	110°C
"R" thermocouple	0...1760°C	540°C
"S" thermocouple	0...1800°C	570°C
"B" thermocouple	400...1820°C	1000°C
Ni-Ni Mo T/C	0...1400°C	110°C
Pt100 RTD	-200...850°C	50°C
Ni100 RTD	-60...180°C	50°C
Potentiometer	0...2000 Ω	50 Ω
Resistance	0...2000 Ω	60 Ω

## ORDER CODES

<b>MPR32</b>	<input type="checkbox"/>	-	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>POWER SUPPLY</b>									
90...253 VAC (std.)	1								
18...30 VDC (op.)	2								
<b>ALARMS</b>									
NO Alarms			0						
With Alarm Outputs			1						
<b>COMMUNICATION</b>									
RS-232 C Interface (std.)				1					
RS-485 Interface (option)				2					
<b>T/C COLD JUNC. COMPENSATION</b>									
No Compensation						20			
CJ Sensor Inside the Recorder						21			
<b>DISPLAY COLOUR</b>									
Red							1		
Green							2		
<b>EXECUTION</b>									
Standard Parameter Setting								0	
Special Parameter Setting								1	
<b>ADDITIONAL REQUIREMENT</b>									
Without Additional Requirements									0
Special Order									X

## DIMENSIONS (mm)



**INDUMART INC.**

1-15 W. Pearce St., Richmond Hill, Ont. L4B 1H6, Canada  
Phone: (905) 707-9998 Fax: (905) 707-8484 E-mail: Sales@Indumart.com