



# SR2700

## FREQUENCY INPUT TWO-WIRE TRANSMITTER

### FEATURES

- 4/20mA Output Proportional to Frequency Input
- Range is Established by Plug-In Range Card
- 10 Cards Provide Continuous Cover From 12.5Hz to 12800Hz Full Scale
- 20 : 1 Dynamic Range Below Full Scale - Useable to 0.6Hz
- 10 : 1 Range Cards Available For Faster Response - Useable to 1.25Hz
- Special Range Card Filters Available
- Test Points - Monitor Current Without Breaking Loop - .08" Probes
- Reverse Polarity Protected\*\* - Surge Protector On Power Input

### DESCRIPTION

The SR2700 is a flexible frequency input two-wire transmitter for Head or DIN rail mounting. It provides a 4 to 20 mA output proportional to the frequency of the input signal.

The input circuit is capacitor coupled so an AC signal imposed on a DC voltage can be measured. Sine or square wave AC signals may also be measured.

A pull-up resistor is provided so the input can be derived from a switch, contact closure, or an open collector NPN transistor such as an optical isolator.

A plug-in range card determines the operating frequency of the unit. 10 cards are available which cover the range from 12.5Hz to

12800Hz full scale. Each card covers a 2 to 1 range (i.e. 12800 to 6400 Hz). Full scale can be any frequency in the range of the card.

Filtering of the Frequency to DC converter signal allows a 20 to 1 dynamic range below the Range Card's lowest Full Scale frequency. (RC-20)

Range cards are also available with a 10 to 1 dynamic range below the Range Card's lowest Full Scale frequency. These Range cards provide a faster response time. (RC-10)

Optional special filters can be provided with a custom dynamic range below a selected Full Scale frequency. The filtering circuits are in the Range Card.

The Zero and Span controls are available on the top of the case.

Test points on the top of the case allow measuring the output current without breaking the loop.

The SR2700 is enclosed in an extruded aluminum case with an aluminum back plate. An optional clip is available for mounting the SR2700 on a DIN rail.

#### TYPICAL APPLICATIONS

- Turbine flow meters
- Paddle wheel flow meters
- Rotating machinery speed
- Conveyor speed.
- Wind mill rotational speed
- Frequency of AC from a generator

### SPECIFICATIONS

#### INPUT SIGNAL RANGE

- AC Voltage Amplitude
  - 30mV rms to 50V rms
- AC Voltage Imposed On DC Voltage Amplitude
  - DC Voltage + Peak of AC Voltage is limited to 100V
- Pull-Up Resistor
  - 10Kohm to +5V

#### INPUT IMPEDANCE

- > 350K For Inputs < 10V P-P
- 150K Ohms For Inputs > 10V P-P

#### OUTPUT

- 4 TO 20mA
- Current Limited 22mA

#### LINEARITY

± 0.01% of Full Scale

#### ACCURACY

± 0.1% of Span

#### USEABLE RANGE (Range Card Dependent)

Full Scale - Any Range of Range Card  
Dynamic Range FS / 20 or FS / 10

\* See Note 1

#### RIPPLE & RESPONSE TIME

See Chart Below

#### MAX LOAD RESISTANCE

$R_{Load} = (PS - 10V) / .02$  Ohms

#### OPERATING TEMPERATURE

-25C to 70C  
-13F to 158F

#### TEMPERATURE STABILITY

±0.004% / Deg C

#### POWER

10 to 36VDC Polarity Protected \*\*

#### Note 1

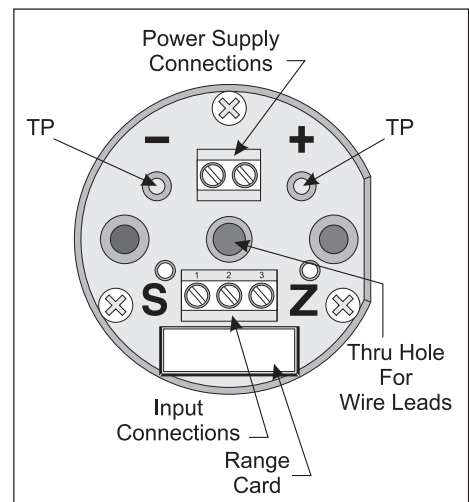
The useable range is a level where ripple on the output reaches a level of 5mV P-P. The range can be greater and is only limited by the amount of ripple which can be tolerated.

The filter is a 3 pole RC filter built into the Range Card.

Optional special filters are easy to implement and can be provided.

\*\* Reverse polarity not protected when meter is connected to test points.

STANDARD RANGE CARDS	LOWEST USABLE FREQUENCY @ 5mV P-P Ripple		TIME TO REACH 95% OF NEW VALUE FOR A STEP CHANGE IN FREQUENCY	
	Dynamic Range	Dynamic Range	Dynamic Range	Dynamic Range
Full Scale Frequency Ranges	20 / 1	10 / 1	20 / 1	10 / 1
12.5Hz to 25Hz	0.6Hz	1.25Hz	20S	6S
25Hz to 50Hz	1.25Hz	2.5Hz	5S	3S
50Hz to 100Hz	2.5Hz	5Hz	2.6S	1.5S
100Hz to 200Hz	5Hz	10Hz	1.3S	640mS
200Hz to 400Hz	10Hz	20Hz	640mS	320mS
400Hz to 800Hz	20Hz	40Hz	320mS	160mS
800Hz to 1600Hz	40Hz	80Hz	160mS	80mS
1600Hz to 3200Hz	80Hz	160Hz	80mS	40mS
3200Hz to 6400Hz	160Hz	320Hz	40mS	20mS
6400Hz to 12800Hz	320Hz	640Hz	20mS	10mS



**ORDERING INFORMATION**

SR2700 Frequency Input Two Wire Transmitter Qty \_\_\_\_\_

DYNAMIC RANGE 20/1	RANGE CARDS	DYNAMIC RANGE 10/1
-----------------------	-------------	-----------------------

RC20 - Set of 10 Qty \_\_\_\_\_  RC10 - Set of 10 Qty \_\_\_\_\_

**INDIVIDUAL RANGE CARDS BY FULL SCALE FREQUENCY RANGE**

- |  |                   |  |
|--|-------------------|--|
| <input type="checkbox"/> RC20-1 Qty _____  | 12.5Hz to 25Hz    | <input type="checkbox"/> RC10-1 Qty _____  |
| <input type="checkbox"/> RC20-2 Qty _____  | 25Hz to 50Hz      | <input type="checkbox"/> RC10-2 Qty _____  |
| <input type="checkbox"/> RC20-3 Qty _____  | 50Hz to 100Hz     | <input type="checkbox"/> RC10-3 Qty _____  |
| <input type="checkbox"/> RC20-4 Qty _____  | 100Hz to 200Hz    | <input type="checkbox"/> RC10-4 Qty _____  |
| <input type="checkbox"/> RC20-5 Qty _____  | 200Hz to 400Hz    | <input type="checkbox"/> RC10-5 Qty _____  |
| <input type="checkbox"/> RC20-6 Qty _____  | 400Hz to 800Hz    | <input type="checkbox"/> RC10-6 Qty _____  |
| <input type="checkbox"/> RC20-7 Qty _____  | 800Hz to 1600Hz   | <input type="checkbox"/> RC10-7 Qty _____  |
| <input type="checkbox"/> RC20-8 Qty _____  | 1600Hz to 3200Hz  | <input type="checkbox"/> RC10-8 Qty _____  |
| <input type="checkbox"/> RC20-9 Qty _____  | 3200Hz to 6400Hz  | <input type="checkbox"/> RC10-9 Qty _____  |
| <input type="checkbox"/> RC20-10 Qty _____ | 6400Hz to 12800Hz | <input type="checkbox"/> RC10-10 Qty _____ |

Transmitters are calibrated to specified frequency at no charge.

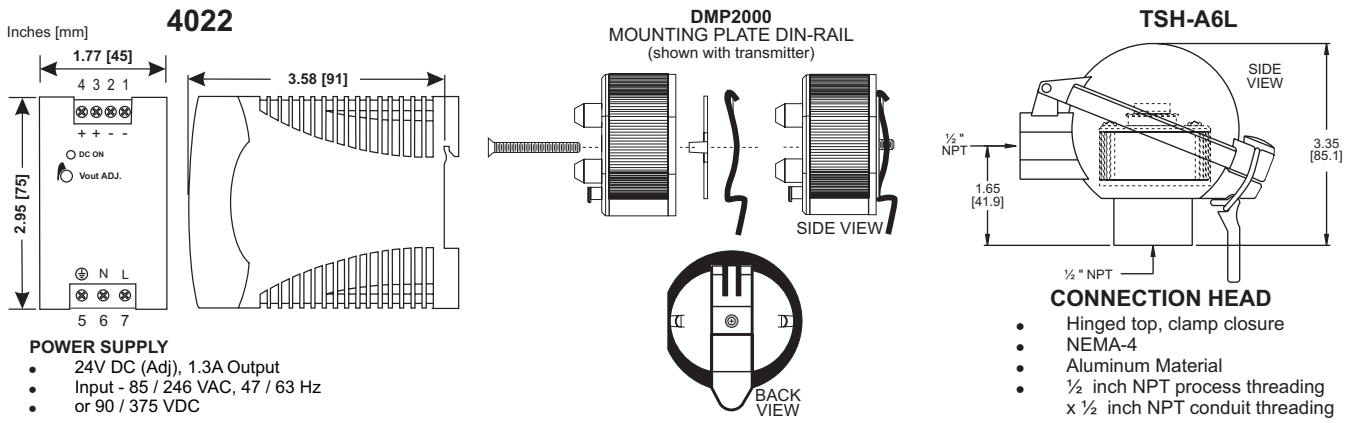
**TAGS**  
**Specify Tag Numbers**  
 Tag number is typed on product label at no charge.

**INPUT (For Calibration)**  
**Enter Input**  
 Zero Scale = 0 Freq  
 Full Scale = \_\_\_\_\_ Hz  
 Tag No. \_\_\_\_\_  
 Full Scale = \_\_\_\_\_ Hz  
 Tag No. \_\_\_\_\_  
 Full Scale = \_\_\_\_\_ Hz  
 Tag No. \_\_\_\_\_  
 Full Scale = \_\_\_\_\_ Hz  
 Tag No. \_\_\_\_\_  
 Full Scale = \_\_\_\_\_ Hz  
 Tag No. \_\_\_\_\_  
 Full Scale = \_\_\_\_\_ Hz  
 Tag No. \_\_\_\_\_  
 Full Scale = \_\_\_\_\_ Hz  
 Tag No. \_\_\_\_\_

**ACCESSORIES**

**SR2700**

- |         |   |           |
|---------|---|-----------|
| 4022    | 24 VDC 1.3 Amp Power Supply                         | QTY _____ |
| DMP2000 | Mounting Plate, DIN-Rail (SR2000 & TW300)           | QTY _____ |
| TSH-A6L | NEMA-4 Aluminum Connection Head (SR2000 & TW300)    | QTY _____ |
| SR-CARD | Silver Series Transmitter Range Card (SR2000)       | QTY _____ |
| DR1     | DIN-Rail, 35 mm Symmetrical, 39 inches (1 meter)    | QTY _____ |
| XJAY    | Explosion-Proof Housing for SR2000 and TW300 Series | QTY _____ |



Tel: 800-234-1343 · 863-647-2000  
 Fax: 863-644-5318 · Email: [sales@wici.com](mailto:sales@wici.com)  
[www.wici.com](http://www.wici.com)

Wilkerson Instrument Co., Inc. 2915 Parkway Street  
 Lakeland, FL 33811

