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Bulletin No. APSIS-C
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MODEL APSIS - Octal Plug-in Accessory Power Supply With 20 mA Current Sources

PROVIDES...

- *24 VDC UNREGULATED "HELPER" SUPPLY FOR LOAD SHARING WITH OTHER 24 VOLT SYSTEMS WITH UNUSUAL SENSOR AND ACCESSORY LOADS OR...*
- *"STAND-ALONE" APPLICATIONS FOR POWERING +24 VDC SENSORS AND ACCESSORIES OR...*
- *TWO 20 mA CURRENT SOURCES, EACH CAPABLE OF SUPPLYING 20 mA OF CURRENT FOR SERIAL COMMUNICATION LOOPS AND POWERING UP TO 16 UNITS PER LOOP.*

DESCRIPTION

The Model APSIS is a convenient plug-in unregulated +24 VDC power supply designed to *"load share"* when connected in parallel with other +24 VDC unregulated systems with unusual power requirements due to sensor or accessory loading *(see Fig.1)*. It can also be used as a general purpose stand-alone supply to power +24 VDC control circuits, sensors and accessories *(see Fig.2)*. In addition, two 20 mA Current Source outputs are available, each capable of powering up to 16 Serial Communications units *(see Fig.3)*. The APSIS is available in 115 and 230 VAC ±10%, 50/60 Hz. primary supply *(see Ordering Information)*. Operating temperature range is -20°C to +50°C.

SPECIFICATIONS

1. **POWER SOURCE**: 2 versions, 115 VAC or 230 VAC ±10%, 50/60 Hz., 11 VA max. *(see Ordering Information)*.
2. **POWER OUTPUT**: +24 VDC unregulated @ 200 mA max. current*, Ripple = 1.5 V P-P max.
3. **OUTPUT**: Two 20 mA current sources, each capable of supplying 20 mA of current for serial communication loops and powering up to 16 units per loop.
4. **OPERATING TEMPERATURE**: -20°C to +50°C (-4°F to +122°F)

* *Maximum available output current derates to 175 mA with 1 source active and 150 mA max. with both sources active.*

TYPICAL LOAD SHARING CONNECTION DIAGRAM

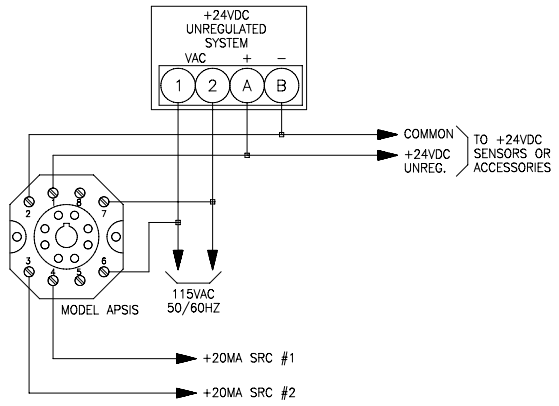
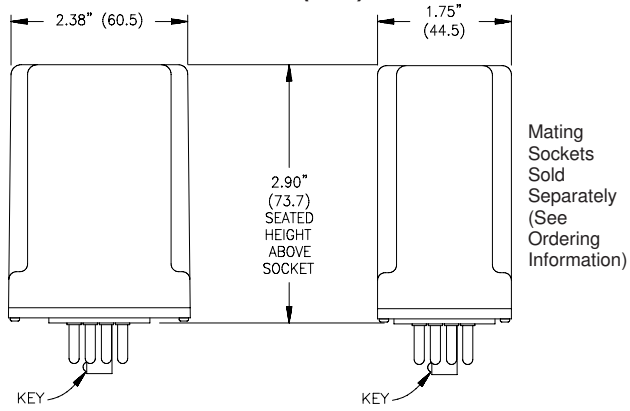


FIGURE 1

DIMENSIONS In inches (mm)



TEMPERATURE MONITORING SYSTEM

A temperature monitoring process requires both remote and control room indicators and datalogging capabilities. An RTD *(Resistance Temperature Detector)* to 4 to 20 mA Transmitter, provides a proportional 4 to 20 mA output from the RTD input. Two Red Lion Controls *"Loop Powered Process Indicators" (Model LPPI)* are installed in series in the *"Loop"* and scaled to provide Local and Remote temperature displays. A Datalogger is also placed in the *"Loop"* to provide a hard-copy of process temperatures. Each device in the *"Loop"* has an associated *"voltage drop"* as follows: RTD Transmitter = 9 VDC drop; LPPI = 3 VDC x 2 units = 6 VDC drop; Datalogger = 5 VDC drop. The total voltage drops in the *"Loop"* = 20 VDC. Therefore, RLC's Model APSIS, with its +24 VDC Supply, is used to power this process *"Loop"*.

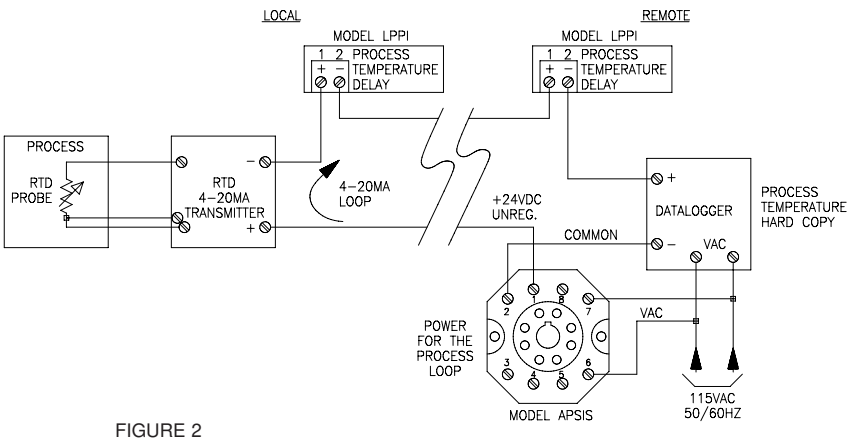
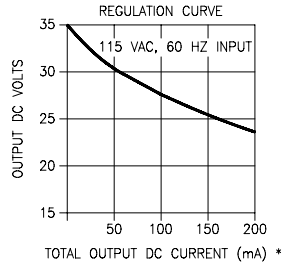


FIGURE 2

PROCESS MONITORING SYSTEM

8 Apollo Thermocouples *(APLTC)* and 8 GEMINIs, all with isolated 20 mA Current Loop Serial Communications, monitor and control processes within a plant. All units, which are located in different areas of the plant, are tied together in series in two *"Loops" (one Transmit Tx, the other Receive Rx)* and are connected to a Central Computer located in another area of the plant. Since there are more than 7, and no more than 16 units in the *"Loop"*, the APSIS +20 mA Current Source Outputs are used to power each *"Loop". (Both Apollo Thermocouple and Gemini units can power up to 7 units in a "Loop" when using their internal 20 mA sources. However, their sources may not be tied together to power more than 7 units.)* Each unit is assigned a different address number and the same Baud rate *(see appropriate APLTC or Gemini data sheet)*. An application program is written which allows the Central Computer to send and retreive data from any APLTC or Gemini.

OUTPUT VOLTS/CURRENT



*Unregulated output +(2) 20 mA current sources (if used).

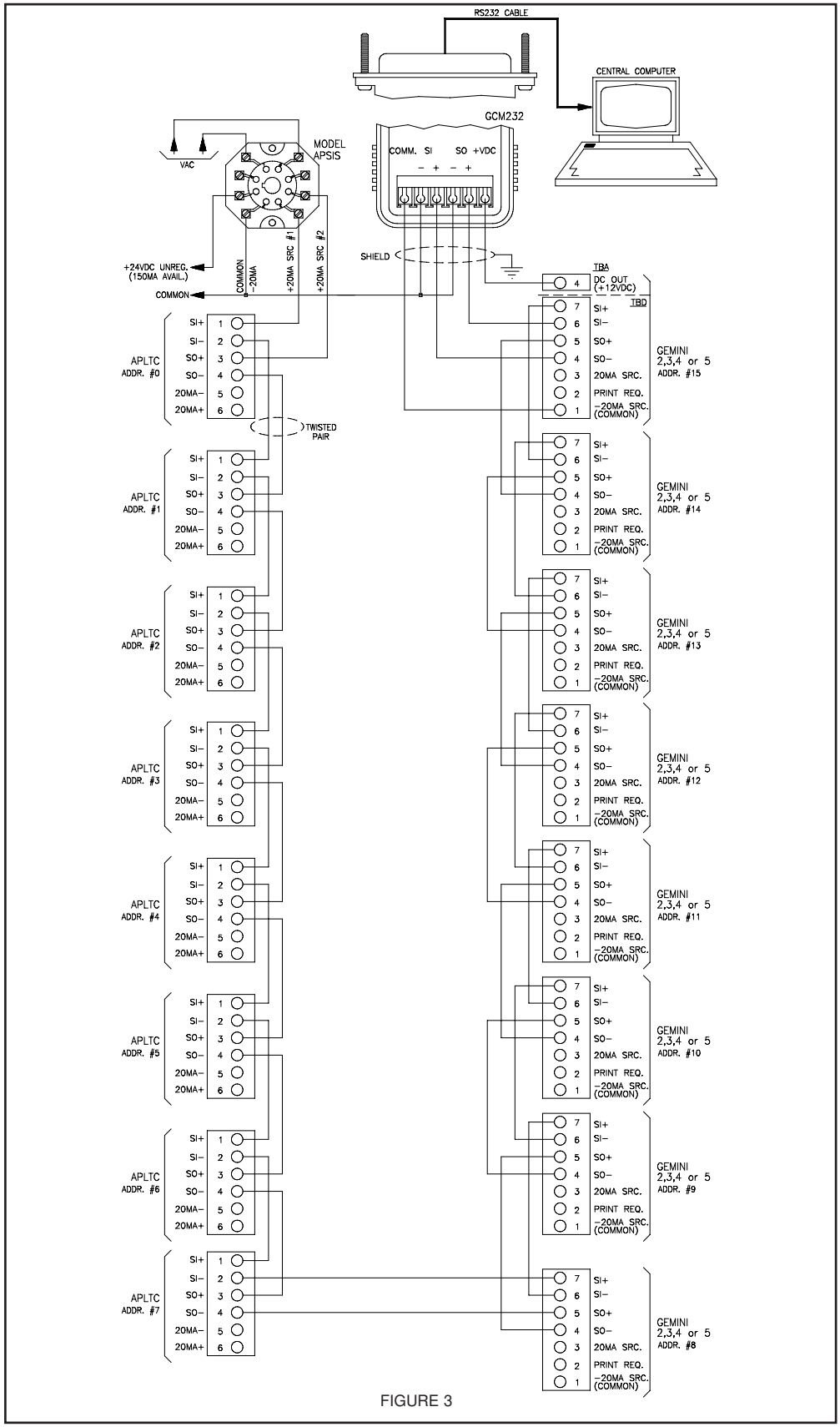


FIGURE 3

ORDERING INFORMATION

MODEL NO.	DESCRIPTION	PART NUMBERS FOR AVAILABLE SUPPLY VOLTAGES	
		230 VAC	115 VAC
APSIS	Accessory Power Supply- Current Source	APSIS010	APSIS000
—	Base Mount, 8-Pin Octal Socket	SKT10000	
—	Din Rail Mount, 8-Pin Octal Socket	SKTDIN00	