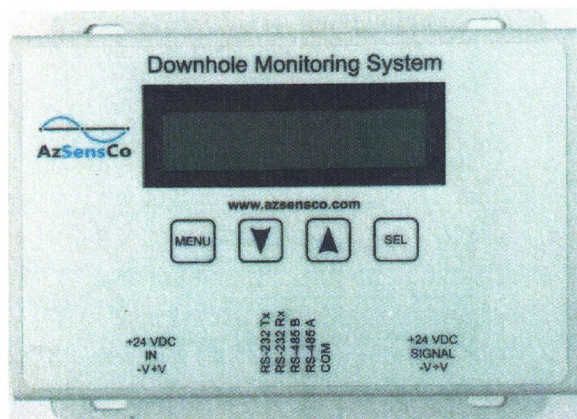


Single Channel Surface Readout

ASR200



The ASR200 is the surface readout unit for the APS400/APS420 series transducers. It is designed to read the data from a single TEC cable.

The SRU has a 16-digit LED display with built-in Modbus support. The SRU acts as a RTU slave. There are two Modbus connections available, two wire RS-485 and RS-232. Only one connection can be used at a time.

Both connections are optically isolated to prevent ground-based noise and provide electrical protection.

The menu that is accessible from the front panel has options for one or two transducer readouts per transducer plus the accelerometer in the APS240. There are several Modbus speeds and different data integration options.

Specifications

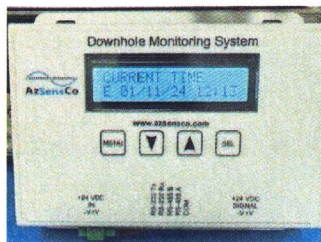
Power Required	12-24VDC
Display Type	16 Digit Alphanumeric LED
Communication Protocol	Modbus RTU Slave
Modbus RS-485 (Isolated)	3 Wire Standard
Modbus RS-232 (Isolated)	3 Wire, No Handshake Required
Operating Temperature	-18°C to 85°C
Dimensions	5.25" x 4.25" x 1.25"
Weight	1.0 Lbs.

Ordering Guide

ASR200	ASR200
DIN Rail Mount	ASR200-DIN

SRU Menus

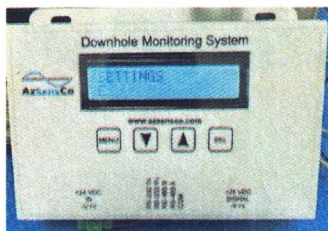
Menu: ASR200/240



Overview Menu

On power up, the SRU will enter the overview mode and cycle between the time/ date and the temperature/ pressure readings. If the accelerometer is present, those readings will be displayed.

Press Menu Button 2x
For Settings Menu



Settings Menu

Press Select Button to step through menu items. See menu tables below for SRU models. To change a parameter, press the up or down arrow keys. To save the change, press the menu button.

Press Menu Button for
Save Menu



Save Menu

Press Select Button for
Save to Flash Menu



Press the DOWN Arrow key to save the changes or the UP Arrow key to discard the changes. The menu will return to the Overview Menu and will cycle through the readings.

Modbus Registers

Surface Readout Menus	User Settable	Options	Defaults							
1 Gauge Temperature C	No									
2 Gauge Pressure PSIA	No									
3 X Vibration	No									
4 Y Vibration	No									
5 Z Vibration	No									
6 Open										
7 Open										
8 Open										
9 Open										
10 Open										
11 Measured Output Voltage	No									
12 Instrument Current	No	600								
13 Instrument Threshold	No	600								
14 SRU DC Voltage	No									
15 Total Number of Packets	No									
16 Number Bad Data Packets	No									
17 Output Voltage Set Point	No	3250								
18 Number of Channels to Read	No	2	4	6						
19 Integration Time	No	1	2	3	4	5	6	7	8	9
20 Modbus Baudrate	Yes	19.2								
21 Modbus ID	Yes	101								
22 Modbus Gap Time	Yes	3								
23 Instrument Pressure Range	Yes	1K	3K	6K	8K	10K				
24 Factory Access Code		12345								
25 IP Address 4	Yes	Set								
26 IP Address 3	Yes	Set								
27 IP Address 2	Yes	Set								
28 IP Address 1	Yes	28								
29 Clock Year	Yes	Set								
30 Clock Day	Yes	Set								
31 Clock Month	Yes	Set								
32 Clock Seconds	Yes	Set								
33 Clock Minutes	Yes	Set								
34 Clock Hours	Yes	Set								
35 SD Logging Rate (Sec)	Yes	10 Sec								
36 SD Logging Enable	Yes	On								
37 SD Logging Flush Card	Yes	Off								

Error Codes

ASR200 Codes

Hex Code	Decimal Code	Error Name	Error Description	Threshold	Units
0x00	0	No Error	No error is present, system is operating normally		
0x01	1	High Temp	Temperature is higher than the maximum		C
0x02	2	Low Temp	Temperature is lower than the minimum		C
0x03	3	High Pressure	Pressure is higher than the maximum		PSIA
0x04	4	Low Pressure	Pressure is lower than the minimum		PSIA
0x05	5	No Downhole	No downhole module is detected (Output current is 0mA)	0.1	mA
0x06	6	Downhole Short	Downhole current is higher than the maximum		30mA
0x07	7	High Voltage	Input voltage is higher than the maximum	26	V
0x08	8	Low Voltage	Input voltage is lower than the minimum	10.8	V
0x09	9	RTC Failure	RTC failed to initialize, or operate correctly		
0x0A	10	FLASH Erase Failure	System has failed to erase flash		
0x0B	11	FLASH Write Failure	System has failed to write to flash		
0x0C	12	Not Implemented			
0x0D	13	Not Implemented			
0x0E	14	Not Implemented			
0x0F	15	Not Implemented			
0x10	16	MODBUS: Address	Wrong modbus address		
0x11	17	MODBUS: Read Memory Address	Invalid modbus memory read address		
0x12	18	MODBUS: Read Register Quantity	Invalid modbus register read quantity		
0x13	19	MODBUS: Write Memory Address	Invalid modbus memory write address		
0x14	20	MODBUS: Write Register Quantity	Invalid modbus register write quantity		
0x15	21	MODBUS: CRC Read Error	Invalid modbus CRC read calculation		
0x16	22	MODBUS: CRC Write Error	Invalid modbus CRC write calculation		
0x17	23	MODBUS: Function Code	Invalid modbus function code		
0x18	24	ADC Failure	ADC Failed to function		
0x19	25	SD Failure	SD card had an unrecoverable failure		

DownHole Codes

Hex Code	Decimal Code	Error Name	Error Description
0x00	0	No Error	No error is present, system is operating normally
0x01	1	Sensor Init Failure	Cannot initialize any of the Temp/Pressure sensors
0x02	2	RESERVED	
0x03	3	AUSART TX Failure	Failure to transmit data to the SRU
0x04	4	Sensor 1 Read Failure	Failure to read data from Sensor 1
0x05	5	RESERVED	
0x06	6	Sensor 2 Read Failure	Failure to read data from Sensor 2
0x07	7	WDT Failure	The Watchdog Timer was triggered
0x08	8	Accel Failure	Failure to read data from the Accelerometer
0x09	9	Accel Init Failure	Cannot initialize the Accelerometer