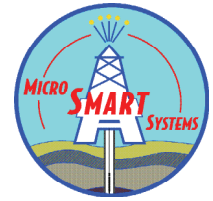


# MSRO SYSTEM



## Multiple Pressure Gauge (SRO)

The MSRO pressure gauge system is utilized when your job application requires real-time, SRO (surface read out) data acquisition from several measurement locations (i.e. multiple wells). The system is composed of:

- (a) compatible computer
- (b) wireline receiver (4 channel, requires AC power)
- (c) 1 to 4 MSRO gauges

The MSRO system is tough, dependable, simple and intelligent. It is flexible enough to operate on a wide variety of mono-conductor electric lines; including cobalt.

Up to 4 MSRO gauges may be connected to the wireline receiver with each transmitting data on it's own cable. Data is received at the wireline receiver from each gauge in sequential order.

The sampling rate is reduced as the number of gauges connected to the wireline receiver increases as follows:

- 1 gauge = 0.9375 seconds
- 2 gauges = 1.875 seconds
- 3 gauges = 2.812 seconds
- 4 gauges = 3.750 seconds

Micro-Smart System's flexible, menu driven, multi-tasking, data acquisition software allows the operator to:

- (a) retrieve and store data to the computer's hard disk in ASCII format (all gauges)
- (b) monitor real-time data on the PC
- (c) print and plot data

Advanced reporting features are available such as data printouts, gradient reports, gradient plots, and most of the standard time vs. pressure/temperature plot formats.

Micro-Smart Systems offers complete Well Test Interpretation, utilizing powerful state-of-the-art software include to data preparation, various analysis methods, analytical reservoir modeling and deliverability.

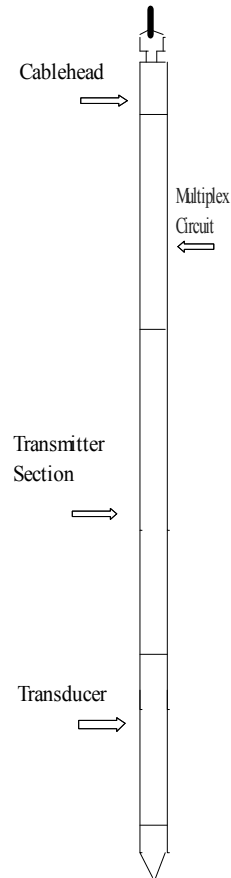
### Applications:

- Monitor and record Pressure and Temperature data from up to 4 different wells with 4 gauges
- Connect 1 gauge downhole and 1 to 3 gauges at surface locations (i.e. tubing, casing, flow line, etc.)
- Upon request, Micro-Smart Systems can design single well, multiple gauge, data acquisition systems utilizing our downhole multiplexing technology. This allows 4 gauges downhole and data transmission to surface via one mono-conductor line.

### SMART Features:

The technological features of the MSRO System are:

- User-friendly, multi-tasking data acquisition Software
- Application flexibility due to system design
- Reliable data transmission insures full scale Accuracy
- Standard ASCII data storage format
- Gauge system connects to a standard 1-3/16" G-O pin cable head



**"FLEXIBILITY IN DATA ACQUISITION"**

### SPECIFICATIONS:

**Accuracy:** ± .05% Full Scale  
± 3° F

**Sample Rate:** .9375 seconds/gauge

**Length:** 42'

**Wireline Receiver Power:** 120/220/240 VAC

**Pressure Ranges:** 5,000 psi (34,000 kPa)  
10,000 psi (68,000 kPa)  
15,000 psi (102,000 kPa)

**Resolution:** .03 psi  
.04° F

**Temperature:** 0° F to 325° F

**Outside Diameter:** 1.45" max. dia.

**Weight:** 13 lbs.