

# SCOTIA DATA ACQUISITION SYSTEM



**The Scotia Data Acquisition System (SDAS) overcomes the problems associated with traditional chart recorders where the only record of the event is the piece of paper produced at the time. Circular and linear charts are notoriously difficult to copy and file. Data analysis and retrieval is often a major issue.**

Most data acquisition systems are complicated for the operator to use and often require the use of instruction manuals and setting up by a skilled technician. The SDAS can be set to auto sense the connected transmitter and set the scale accordingly. The operator can be gathering data with just five simple actions from switch on.

The SDAS records pressure (or any process signal) from a 4-20mA transmitter and temperature from a Pt100 probe. It displays and stores the information both digitally and graphically. The graphs or data can be printed for witnessing or included in customer documentation packages. The standard printed chart provides a unique identifier, specific test notes, test equipment serial numbers, date and time of the test graph, your company name and client name with sections for test engineer and witness signature.

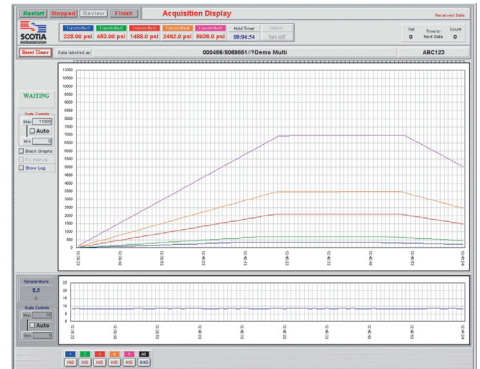
Data retrieval and review is assisted by sophisticated easy to use search facilities giving the operator easy access to previous test data.

The SDAS is available in standalone, multi-channel and networked versions. The multi-channel version can record up to five 4-20mA transmitters simultaneously these measurements can be displayed either individually or all channels at once. The networked version uses an SDAS Server to provide and gather data from a number of SDAS client devices. This is an ideal solution for any company with a number of fixed testing stations. All of these versions can have options fitted to suit your measurement application. Data is gathered from all channels at a time interval set by the user regardless of the graphic display.

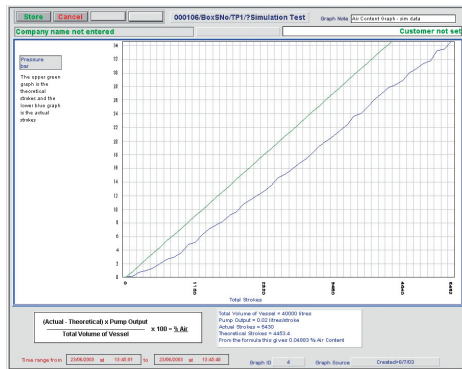
The SDAS can be used within a Scotia Business Database Solution collating such information as job tickets, technician work packs, customer reports, certification, delivery tickets and invoice generation. These modular systems can be used to reduce manual data entry at all stages of the process.

**SDAS Features**

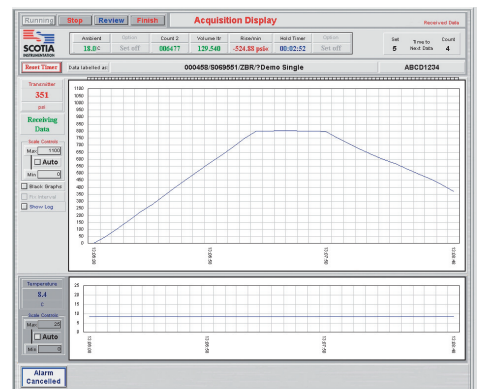
- Secure data collection that cannot be altered by the user in any way
- Simple steps to start data collection
- Real time digital and graphic display of pressure and temperature
- Auto scale and auto range or operator set scaling, range and units
- Generates unique test identifier together with your specific reference
- Secure data review and transfer facility
- Industry leading operator menu interface for ease of use and data entry
- Any 4-20mA two-wire transmitter can be used
- Sensor data stored for quick selection and certification integrity
- Available as standalone, multi-channel and networked versions
- Quality assured with user password and electronic sensor recognition



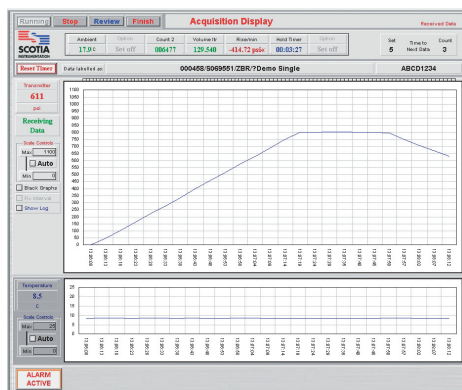
SDAS multi-channel with hold period timer



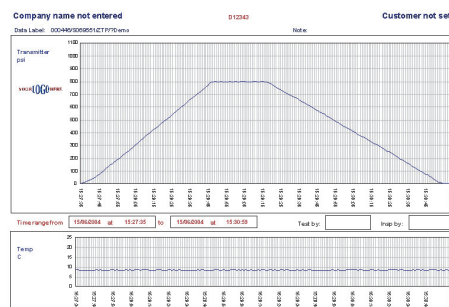
SDAS on-screen air content calculation



SDAS single with ambient, stroke, volume, rise rate, hold period and cancelled alarm



SDAS single with ambient, stroke, volume, rise rate, hold period and active alarm



SDAS printed graph

**Acquired Data Listing**

| Data Label              | User Reference/ID | Date     | Time     | Pressure/Temperature |
|-------------------------|-------------------|----------|----------|----------------------|
| 0004463069551(CT)PFDemo | D1234E            | 15/06/04 | 15:27:35 | 0                    |
| Sim Data 15/06/02       | Trans-02          | 0        | 0        | -999.00 8.55 C       |
| 0004463069551(CT)PFDemo | D1234E            | 15/06/04 | 15:27:36 | 0                    |
| Sim Data 15/06/02       | Trans-02          | 78       | 0        | 0                    |
| 0004463069551(CT)PFDemo | D1234E            | 15/06/04 | 15:27:37 | 14                   |
| Sim Data 15/06/02       | Trans-02          | 79       | 0        | 0                    |
| 0004463069551(CT)PFDemo | D1234E            | 15/06/04 | 15:27:38 | 22                   |
| Sim Data 15/06/02       | Trans-02          | 80       | 0        | 0                    |
| 0004463069551(CT)PFDemo | D1234E            | 15/06/04 | 15:27:39 | 29                   |
| Sim Data 15/06/02       | Trans-02          | 81       | 0        | 0                    |
| 0004463069551(CT)PFDemo | D1234E            | 15/06/04 | 15:27:40 | 34                   |
| Sim Data 15/06/02       | Trans-02          | 82       | 0        | 0                    |
| 0004463069551(CT)PFDemo | D1234E            | 15/06/04 | 15:27:41 | 39                   |
| Sim Data 15/06/02       | Trans-02          | 83       | 0        | 0                    |
| 0004463069551(CT)PFDemo | D1234E            | 15/06/04 | 15:27:42 | 46                   |
| Sim Data 15/06/02       | Trans-02          | 84       | 0        | 0                    |
| 0004463069551(CT)PFDemo | D1234E            | 15/06/04 | 15:27:43 | 55                   |
| Sim Data 15/06/02       | Trans-02          | 85       | 0        | 0                    |
| 0004463069551(CT)PFDemo | D1234E            | 15/06/04 | 15:27:44 | 65                   |
| Sim Data 15/06/02       | Trans-02          | 86       | 0        | 0                    |
| 0004463069551(CT)PFDemo | D1234E            | 15/06/04 | 15:27:46 | 74                   |
| Sim Data 15/06/02       | Trans-02          | 87       | 0        | 0                    |
| 0004463069551(CT)PFDemo | D1234E            | 15/06/04 | 15:27:48 | 87                   |
| Sim Data 15/06/02       | Trans-02          | 88       | 0        | 0                    |
| 0004463069551(CT)PFDemo | D1234E            | 15/06/04 | 15:27:47 | 98                   |
| Sim Data 15/06/02       | Trans-02          | 89       | 0        | 0                    |
| 0004463069551(CT)PFDemo | D1234E            | 15/06/04 | 15:27:48 | 110                  |
| Sim Data 15/06/02       | Trans-02          | 90       | 0        | 0                    |
| 0004463069551(CT)PFDemo | D1234E            | 15/06/04 | 15:27:49 | 122                  |
| Sim Data 15/06/02       | Trans-02          | 91       | 0        | 0                    |
| 0004463069551(CT)PFDemo | D1234E            | 15/06/04 | 15:27:50 | 134                  |
| Sim Data 15/06/02       | Trans-02          | 92       | 0        | 0                    |
| 0004463069551(CT)PFDemo | D1234E            | 15/06/04 | 15:27:51 | 146                  |
| Sim Data 15/06/02       | Trans-02          | 93       | 0        | 0                    |
| 0004463069551(CT)PFDemo | D1234E            | 15/06/04 | 15:27:52 | 157                  |
| Sim Data 15/06/02       | Trans-02          | 94       | 0        | 0                    |
| 0004463069551(CT)PFDemo | D1234E            | 15/06/04 | 15:27:53 | 167                  |
| Sim Data 15/06/02       | Trans-02          | 95       | 0        | 0                    |
| 0004463069551(CT)PFDemo | D1234E            | 15/06/04 | 15:27:54 | 179                  |
| Sim Data 15/06/02       | Trans-02          | 96       | 0        | 0                    |
| 0004463069551(CT)PFDemo | D1234E            | 15/06/04 | 15:27:55 | 191                  |
| Sim Data 15/06/02       | Trans-02          | 97       | 0        | 0                    |

SDAS stored data printed values

## OPTIONS

The following options can be added to the standard SDAS system. The SDAS system is modular in construction and all options can be retrofitted.

- Multichannel five process signals. (01) • Ambient temperature indication. (02)
- Magnetic sensor type counter or flowmeter allows volume calculations to be performed. (03)
- Stroke counter input via microswitch allows volume calculations to be performed. (04)
- Rate of rise/fall indicator - where a test calls for a set rate this can be indicated for ease of operator control. (05)
- Onboard calculation and graphing of air inclusion (06) Requires option (03) to operate.
- Layering allows consecutive graphed events to be compared by overlaying and is used for the verification of relief valves. (07)
- Variable logging rate whilst logging. (08) • Variable data print interval. (09) • Export of Graph picture. (JPEG) (10)
- Export text file of data at test finish. (11) • Hold period timer. (12)
- Test event log activate. (13) • External alarm on rising or falling set point. (14) • Adjust display resolution. (15)
- Test summary certificate. (16) • Torque version. (24) No other options available with this version. • Review software. (25)

## SPECIFICATIONS

|                            |   |                                    |   |
|----------------------------|---|------------------------------------|---|
| Input Sensor               | Any 4-20mA two wire transmitter. Scotia or customer supply, embedded serial device allows auto range and selection. Active or passive loop configuration. | Keyboard                           | PS/2  |
| Excitation voltage         | 24V fused @125mA  | Mouse                              | PS/2  |
| Temperature probe          | Pt100 (4 wire)  | User interface                     | Two x USB, One x Fire Wire                      |
| Temperature resolution     | 0.1°C   | Network connection                 | 100baseT  |
| Temperature accuracy       | 0.2°C   | Alarm option                       | Internal voltage free contact and socket        |
| Logging interval           | One second and upwards  | Multichannel option                | Onboard additional connections                  |
| Uncertainty in measurement | Sensor + 0.0001%  | Input Voltage                      | 90 to 264Vac, 50 or 60Hz                        |
| Resolution                 | One part in 60000   | Input Current                      | 2.1A @ 110Vac,<br>1.1A @ 230Vac                 |
| Monitor                    | 17", LCD with surface mounting option. Dimensions (mm) 376x371x150.   | System operating temperature range | -10°C to +40°C                                  |
|                            |   | Internal cooling                   | Constant positive airflow                       |
|                            |   | Case size                          | Width 320 Height 180<br>Depth 430               |
|                            |   | Weight                             | 6.7kg   |
|                            |   | Software                           | Scotia Data Acquisition System Database Program |

The SDAS family of products all use the same ground breaking software:

- SCOTIADATABOX for data acquisition using a separate PC or laptop
- Scotialogger 3 for onsite pressure testing
- Scotia Subsea logger for pipeline verification subsea.

The SDAS range of instruments is designed and built by Scotia Instrumentation Ltd.



Campus 1 · Aberdeen Science & Technology Park · Balgownie Road · Bridge of Don · Aberdeen · AB22 8GT  
 Tel +44 (0)1224 222888 · Fax +44 (0)1224 826299  
 info@scotia-instrumentation.com  
 www.scotia-instrumentation.com

Also at: New York Industrial Estate · North Shields · Tyne & Wear · NE27 0OF  
 Tel: +44 (0)191 296 3444 · Fax: +44 (0)191 296 3555

