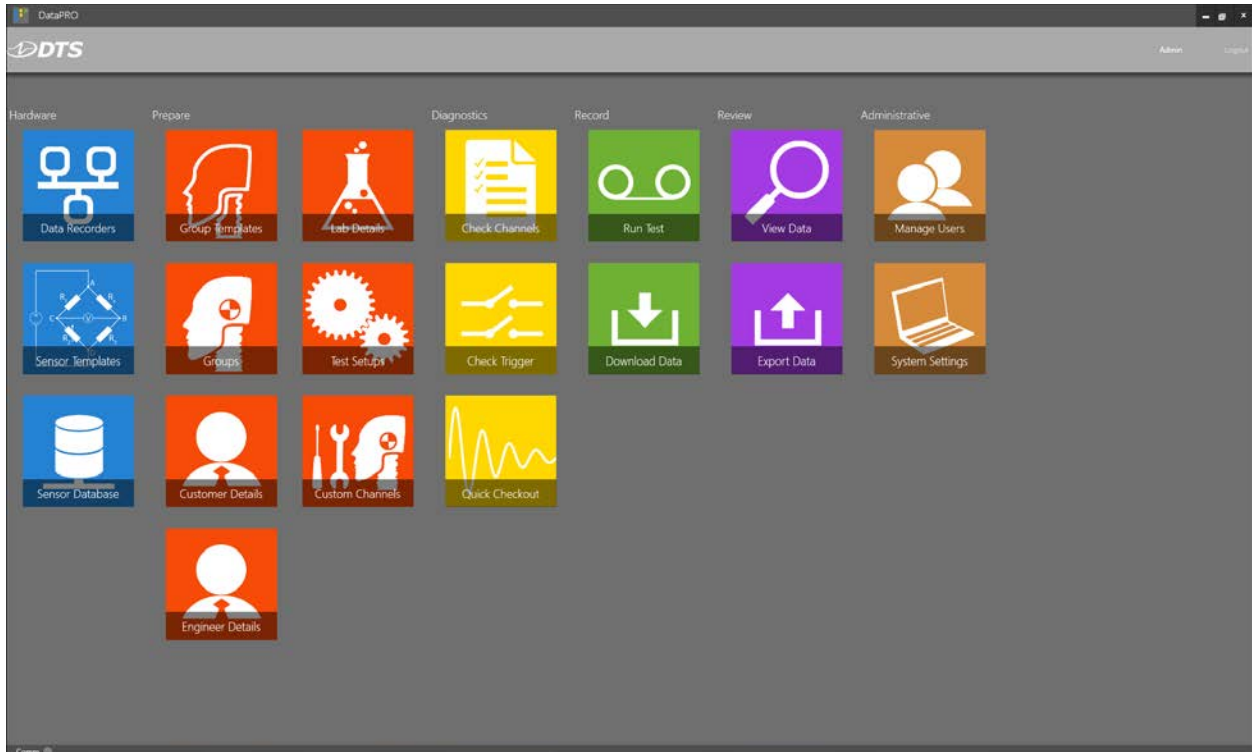


Getting started in DataPRO v1.5



Contents

DATAPRO QUICK START GUIDE OVERVIEW	4
DTS SUPPORT	5
INTRODUCING DATAPRO	6
PC REQUIREMENTS	6
SOFTWARE INSTALLATION	6
WHAT'S NEW IN 1.5	10
REVIEW DATA IMPROVEMENTS	10
EXPORT IMPROVEMENTS	10
DATABASE/CONFIGURATION FILE MIGRATION	10
USER SPECIFIC TEST SETUP DEFAULT SETTINGS	10
"IN USE" RECORD PROTECTION	10
HALF BRIDGE SHUNT CHECK	10
OVERLAY SQUIB VOLTAGE/CURRENT DATA	10
LOG FILE CLEANUP	10
SLICE6 TILT SENSOR AND TEMPERATURE READINGS	10
HARDWARE	11
DATA RECORDERS	11
DETECT NEW DATA RECORDERS	11
UPDATE HARDWARE CONFIGURATION	12
SENSOR DATABASE	13
ADD NEW SENSORS	13
IMPORT SENSORS	14
READ IDs, MEASURE BRIDGES	13
PREPARE – ISO MODE	15
GROUP TEMPLATES	15
CREATE A GROUP TEMPLATE	15
EDIT A GROUP TEMPLATE	16
GROUPS	17
CREATE A GROUP	17
EDIT A GROUP	20
TEST SETUPS	21
CREATE A TEST SETUP	21
EDIT A TEST SETUP	27
PREPARE – NON-ISO MODE	30
GROUPS	30
CREATE A GROUP	30
EDIT A GROUP	33
TEST SETUPS	34
CREATE A TEST SETUP	34
EDIT A TEST SETUP	39

DIAGNOSTICS	41
CHECK CHANNELS	41
CHECK TRIGGER	45
QUICK CHECKOUT	46
RECORD	48
RUN TEST	48
DOWNLOAD DATA	53
REVIEW	54
VIEW DATA	54
EXPORT DATA	55
ADMINISTRATIVE	56
MANAGE USERS	56
SYSTEM SETTINGS	58

DataPRO Quick Start Guide Overview

The DataPRO Quick Start Guide is not meant to be a comprehensive manual, rather it is intended to be a supplement to the manual. The Quick Start Guide gives an overview of the basic steps required for operating DataPRO and outlines some of the functions and options of key features.

Both the DataPRO Manual and the DataPRO Quick Start Guide will continue to be updated as DataPRO development advances.

DTS Support

DTS systems are designed to be reliable and simple to operate. Should you need assistance, DTS has support engineers worldwide with extensive product knowledge and test experience to help via telephone, e-mail or on-site visits.

The best way to contact a DTS support engineer is to submit a request through the DTS Help Center web portal (support.dtsweb.com). You must be registered (support.dtsweb.com/registration) to submit a request (<https://support.dtsweb.com/hc/en-us/requests/new>). Registration also enables access to additional self-help resources and non-public support information.

This quick start guide supports the following products:

10920-04010: DataPRO Software

Introducing DataPRO

DataPRO is a comprehensive software application that supports SLICE PRO, SLICE MICRO/NANO, and legacy TDAS PRO and TDAS G5 hardware. DataPRO allows seamless integration of SLICE and TDAS systems in a single test setup. Suitable for both small facility and multi-user lab settings, DataPRO includes extensive diagnostics and hardware checks, customizable user interface with access control, support for sensor templates and group templates, and off-line test builder and multiple data export formats.

Please visit the DTS Help Center for the latest software information.

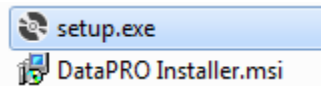
PC Requirements

DataPRO is a Windows®-based program. Minimum PC specifications are:

- Windows Vista, 7, 8 or 10. 32- and 64-bit versions are supported.
- Microsoft .NET 4.5.
- Multicore processor.
- 4 GB RAM minimum; 8 GB RAM recommended. (More RAM is important for high channel count and longer/higher sample rates.)
- 250 MB disk space for software plus additional storage for test data.
- 1024 x 768 minimum screen resolution, 4k recommended.

Software Installation

- A Locate the installation files (e-media or downloaded from the Help Center).
- B Run the setup file to install DataPRO.

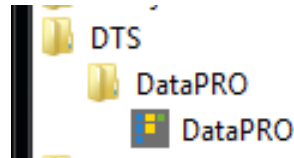
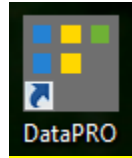


- C Follow the prompts to:
 - 1 Change the install directory if desired, and
 - 2 Install drivers if necessary. You may be asked several times to permit installation of drivers.
 - 3 Choose to install to a Local database or a Centralized (SQL Server) database
 - a Enter login details if Centralized database is selected
 - 4 Copy data from previous database

Default install directory is *C:\DTS\DataPRO*, but can be changed at install. Multiple versions can be installed concurrently and will be organized in folders by version number. Data files are located in *C:\DTS\DataPRO\Data* and organized in folders by test setup.

For information on importing a sensor database, go to Import sensors on page 14. For information on restoring to a DataPRO database xml, go to System Settings page 63.

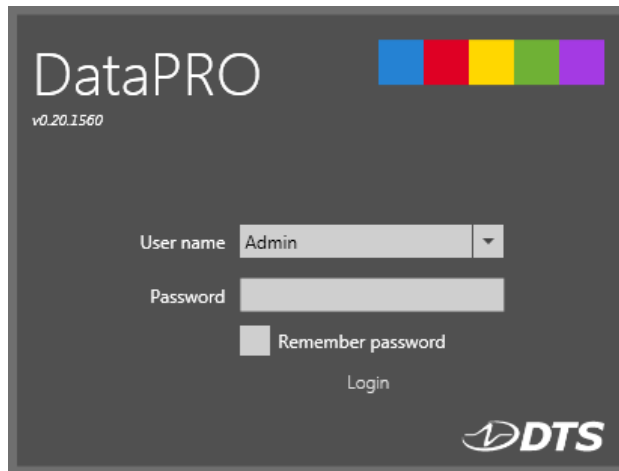
D When installation is complete, open DataPRO using the desktop icon or Start menu.



Note: Windows may ask you to reinstall the hardware driver each time you connect a SLICE Stack to a different USB port.

E Log in as the Administrator (Admin). Admin password = DTSAdmin

- 1 Features and functions available to all other users are controlled by the DataPRO Administrator (see section Administrative, page 56).



DataPRO File Structure

C:\DTS\DataPRO

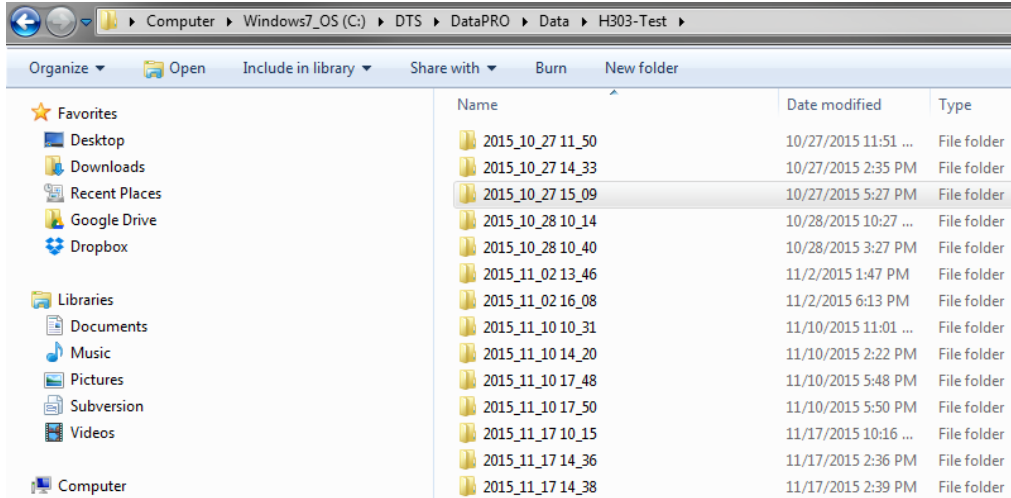
Contains DataPRO software organized in folders by version number. (This is the default installation location.)

C:\DTS\DataPRO\Data

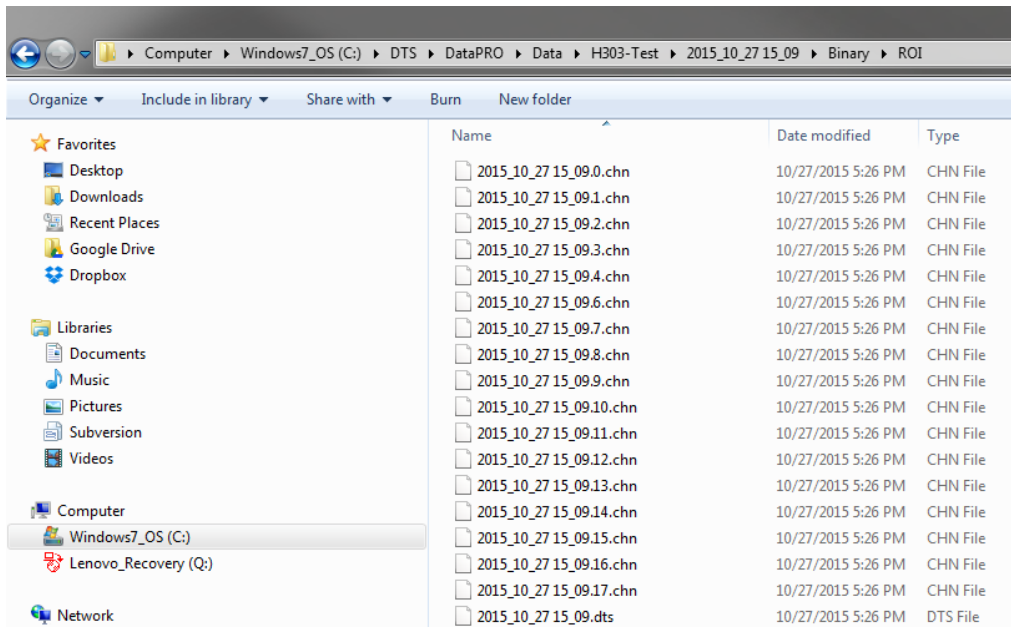
Contains data files organized in folders by Test Setup name. This file location is used for all versions of DataPRO.

C:\DTS\DataPRO\Data\<>test setup name<

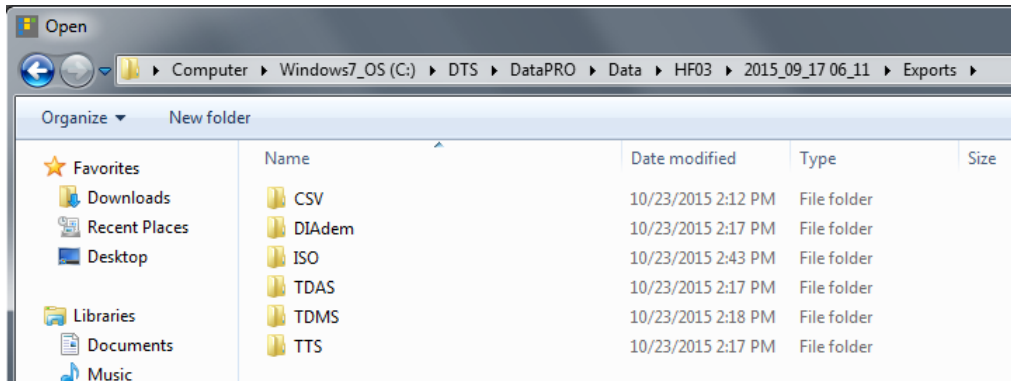
Contains test data organized by unique Test ID for a given test.



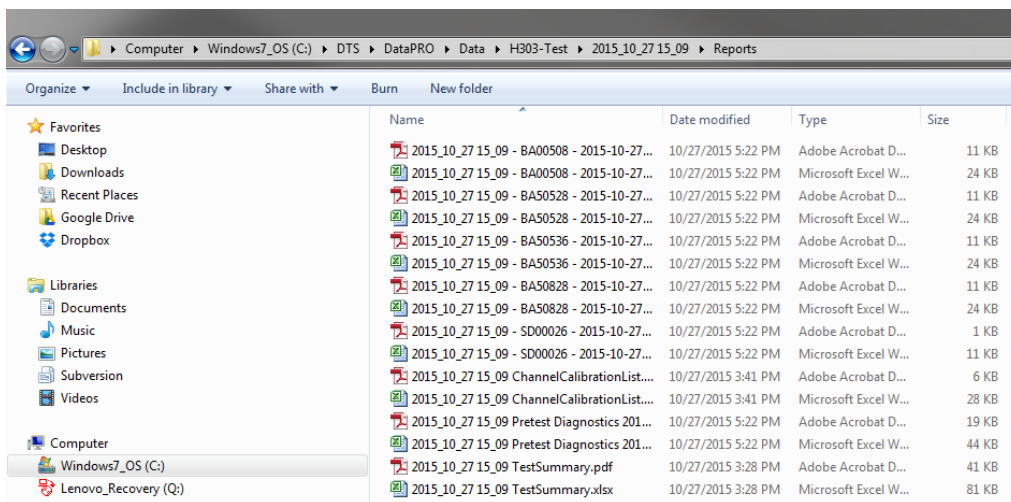
C:\DTS\DataPRO\Data\
 Contains channel data files (.CHN) from a given test. Whether this file contains all test data or a region of interest (ROI) depends on the user's selection in the test setup.



C:\DTS\DataPRO\Data\
 Contains test data in the user-selected export format(s) (DIAdem, CSV, ISO TTS, RDF, TDAS, TDMS) after test completion.



C:\DTS\DataPRO\Data\<test setup name>\<test ID>\Reports
 Contains test reports and summaries for the hardware channels included in the test.



C:\DTS\DataPRO\<version number>\db
 Contains entire DataPRO database (sensors, DAS, group templates, groups, test setups, etc.).

C:\DTS\DataPRO\<version number>\Logs
 Contains log file(s). To assist troubleshooting, DTS Support may ask you to send these files.

C:\DTS\DataPRO\<version number>\Manuals
 Contains manuals for SLICE equipment and DataPRO software that are current at time of software release.

C:\DTS\DataPRO\<version number>\ZonePictures
 Contains default and user-added photos.

What's new in 1.5

Database/Configuration File Migration

DataPRO will now automatically update the configuration file of the new version at installation and will allow the user to select to use either a Local database or to use a Centralized (SQL Server) database. The user will also have the option to copy data from the previous database.

"In Use" Record Protection

Installations that utilized a Centralized SQL Server Database could encounter situations in which multiple users are making edits to the same objects or records. This feature effectively 'locks' a record that is opened and prevents edits to that same record or to objects that include that record.

User Specific Test Setup Default Settings

The default settings for new Test Setups are now located in the System Settings tile and can be set for each user.

Half Bridge Shunt Check

TDAS and SLICE hardware use different resistor values for internal bridge completion circuits. Support was added to determine, display, and apply the necessary bridge completion information dynamically based on hardware connection.

Overlay Squib Voltage/Current Data

Users can specify to include voltage, current, or both outputs for data overlay using the custom graph navstep in Test Setup.

Export Improvements

- Channel polarity is displayed in the Test Summary Report
- Added optional Excel (xlsx) export format
- TLF file (exported with TDAS format) includes Channel Name in "descrip" field
- Leading zeroes added to TSV export channel names to preserve channel order

Review Data Improvements

- Sensitivity value used for data collection is now displayed in Review Data. This value can quickly and easily be modified and applied to the collected data. Applying this change will create a backup of the original data as downloaded.
- A Line Fit function can now be applied across two specified data points.

Log File Cleanup

The log file was redesigned to be easier to interpret.

SLICE6 Tilt Sensor and Temperature Readings

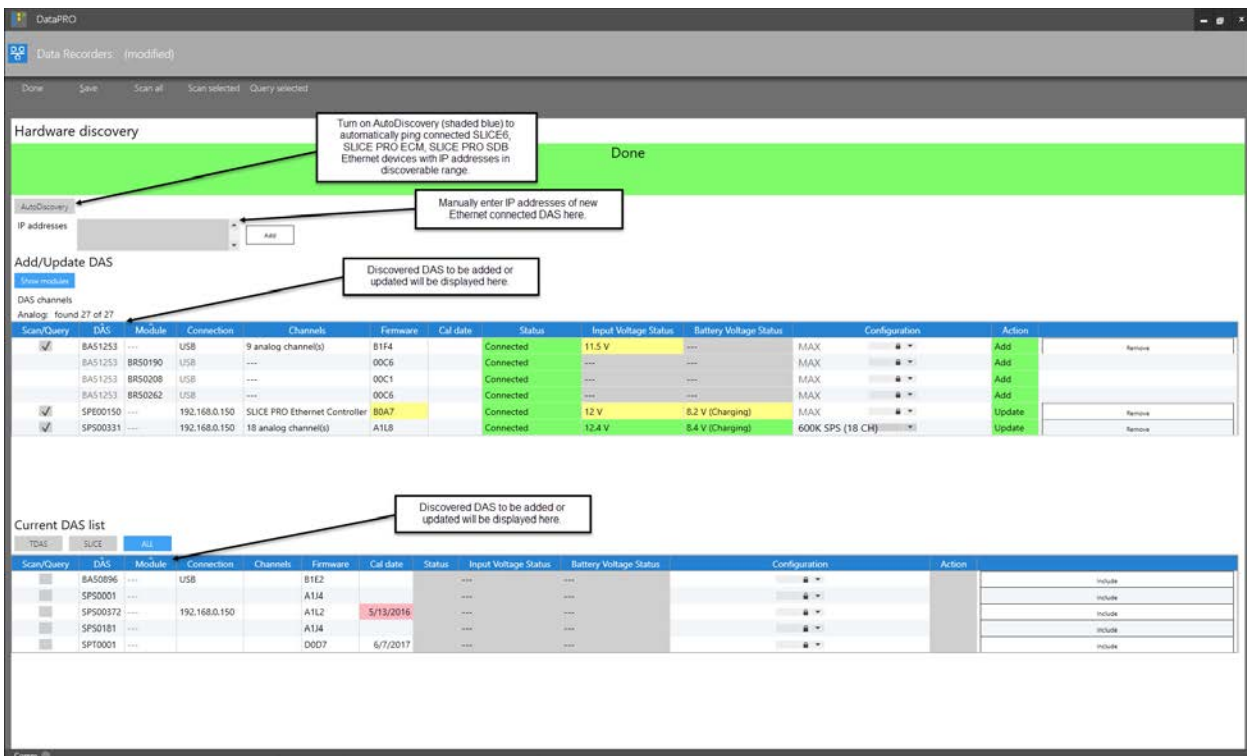
Tilt and temperature readings from SLICE6 are now measured in Arm Checklist and recorded in the .dts file.

Hardware

Data Recorders



Detect new Data Recorders



Hardware discovery Done

AutoDiscovery: Turn on AutoDiscovery (shaded blue) to automatically ping connected SLICE6, SLICE PRO ECM, SLICE PRO SDB Ethernet devices with IP addresses in discoverable range.

IP addresses: Manually enter IP addresses of new Ethernet connected DAS here.

Add/Update DAS: Discovered DAS to be added or updated will be displayed here.

Scan/Query	DAS	Module	Connection	Channels	Firmware	Cal date	Status	Input Voltage Status	Battery Voltage Status	Configuration	Action
✓	BAS1253	---	USB	9 analog channel(s)	B1F4	---	Connected	11.5 V	---	MAX	Add Remove
	BAS1253	BR50190	USB	---	00C6	---	Connected	---	---	MAX	Add
	BAS1253	BR50208	USB	---	00C1	---	Connected	---	---	MAX	Add
	BAS1253	BR50262	USB	---	00C6	---	Connected	---	---	MAX	Add
✓	SP600150	---	192.168.0.150	SLICE PRO Ethernet Controller	B0A7	---	Connected	12 V	8.2 V (Charging)	MAX	Update Remove
✓	SP500331	---	192.168.0.150	18 analog channel(s)	A1L8	---	Connected	12.4 V	8.4 V (Charging)	600K SPS (18 CH)	Update Remove

Current DAS list: Discovered DAS to be added or updated will be displayed here.

Scan/Query	DAS	Module	Connection	Channels	Firmware	Cal date	Status	Input Voltage Status	Battery Voltage Status	Configuration	Action
	BAS0096	---	USB	---	B1E2	---	---	---	---	---	Include
	SP500001	---	---	---	A1I4	---	---	---	---	---	Include
	SP500372	---	192.168.0.150	---	A1I2	5/13/2016	---	---	---	---	Include
	SP50181	---	---	---	A1I4	---	---	---	---	---	Include
	SPT0001	---	---	---	D0D7	6/7/2017	---	---	---	---	Include

- A Click Data Recorders tile
- B Click Detect
- C To automatically discover and ping connected SLICE 6 and SLICE PRO ECM/SDB Ethernet devices, turn on AutoDiscovery
 - 1 IP addresses of devices must be within configured range of PC
- D To manually enter IP address of Ethernet-connected DAS, click Add
 - 1 Click Scan Selected to confirm communication of newly-added Ethernet-connected DAS
 - 2 DAS will be displayed under Add/Update DAS if communicating
 - 3 USB-connected DAS will be discovered when clicking either Scan All or Scan Selected
- E Click Query Selected
 - 1 Configuration of hardware is added/updated
- F Click Save

Update Hardware Configuration

- A Click Data Recorders tile
- B Click Detect
- C Click Scan All
 - 1 All connected/online DAS will be listed in Add/Update DAS table
- D Click Query Configuration
- E Bridge/Module configuration will be updated
- F Click save when finished

Sensor Database



Add new sensors

- Click the Sensor Database tile
- Click Add
- Choose Analog, Squib, Digital Input, or Digital Output sensor type
- Enter/select information from calibration sheet
- Click Save when finished

Read IDs, Measure Bridges

- Click Sensor Database tile
- Click Read IDs and Measure Bridges

Done Save Read IDs Measure Bridge Resistance

Search

Done

Connected/Available DAS will display "Connected" here.

Read IDs	Data Recorders / Distributors	Connection	Available DAS Channels	Status
<input checked="" type="checkbox"/>	BA50597	---	6	Connected
<input type="checkbox"/>	BA50492	---	9	
<input type="checkbox"/>	BA50630	---	15	
<input type="checkbox"/>	SPE00078	192.168.0.78	Ethernet Controller	
<input type="checkbox"/>	SF500182	---	18	

Connected sensors will be displayed here after Read IDs is completed.

Measure Bridge	Data Recorders	Channel	ID	Sensor	Resistance	Serial number	Name	Manufacturer
<input type="checkbox"/>	BA50597:BR50262	CH-01	89000017576D9901	P25725	502	6DX0072-Ac1 (H3-50 001 Head Ax)	H3-50 001 Head Ax	DTS
<input type="checkbox"/>	BA50597:BR50262	CH-02	45000017576E2F01	P38541	502	6DX0072-Ac2 (H3-50 001 Head Ay)	H3-50 001 Head Ay	DTS
<input type="checkbox"/>	BA50597:BR50262	CH-03	C7000017576D8201	P72468	502	6DX0072-Ac3 (H3-50 001 Head Az)	H3-50 001 Head Az	DTS
<input type="checkbox"/>	BA50597:BR50190	CH-01	ED0000018C92022D	Not in sensor db	Not yet measured	6DX0072-Ar1 (H3-50 001 Head Wx)	H3-50 001 Head Wx	DTS
<input type="checkbox"/>	BA50597:BR50190	CH-02	8900000688B7042D	Not in sensor db	Not yet measured	6DX0072-Ar2 (H3-50 001 Head Wy)	H3-50 001 Head Wy	DTS
<input type="checkbox"/>	BA50597:BR50190	CH-03	No Id found	---	Not yet measured	6DX0072-Ar3 (H3-50 001 Head Wz)	H3-50 001 Head Wz	DTS
						6DX0084-Ac1 0		DTS
						6DX0084-Ac2 0		DTS
						6DX0084-Ac3 0		DTS
						6DX0084-Ar1 0		unknown
						6DX0084-Ar2 0		unknown
						6DX0084-Ar3 0		unknown
						6DX0085-Ac1 0		DTS
						6DX0085-Ac2 0		DTS
						6DX0085-Ac3 0		DTS

This is the list of all sensors in the Sensor Database.

Check All Check None Check Found

Assign a Dallas ID to an existing sensor

- Select connected DAS from Read IDs and Measure Bridges screen to scan for IDs
- Click Read IDs
- Select sensor from list of Sensors Available
- Drag desired sensor to appropriate channel/ID from list of Sensors Found
- Click Save when finished

Measure Bridges

- A Select connected Data Recorders from Read IDs and Measure Bridges screen to scan for IDs
- B Click Read IDs
- C Select sensors from list of Sensors Found to measure bridges
- D Check All, Check Found buttons select all sensors found by EID or assigned to Hardware Channels.
- E Click Measure Bridge Resistance(s)
- F Click Save when finished

Import sensors

- A Click the Sensor Database tile
- B Click Import
- C Select Format (DataPRO XML, SLICEWare XML, TDAS Control Sensor Database, SIF, EQX, TTS< TDAS Manager CSV Import)
- D Click Browse and navigate to desired file
- E Click Preview to review sensors to be included in import
- F Click Import navstep to import included sensors
- G Click Import another to import another file or Done to return to Sensor Database

Export sensors

- A Click the Sensor Database tile
- B Click Export
- C Select Format (DataPRO XML, SLICEWare XML, TDAS Control Sensor Database)
- D Click Browse, navigate to desired location and enter filename
- E Click Export to export sensor database

Delete sensors

To delete one sensor:

- A Click the Sensor Database tile
- B Select sensor from Sensors table
- C Click Delete
- D Select Yes when prompted

To delete all sensors

- A Click the Sensor Database tile
- B Click Delete all
- C Select Yes when prompted

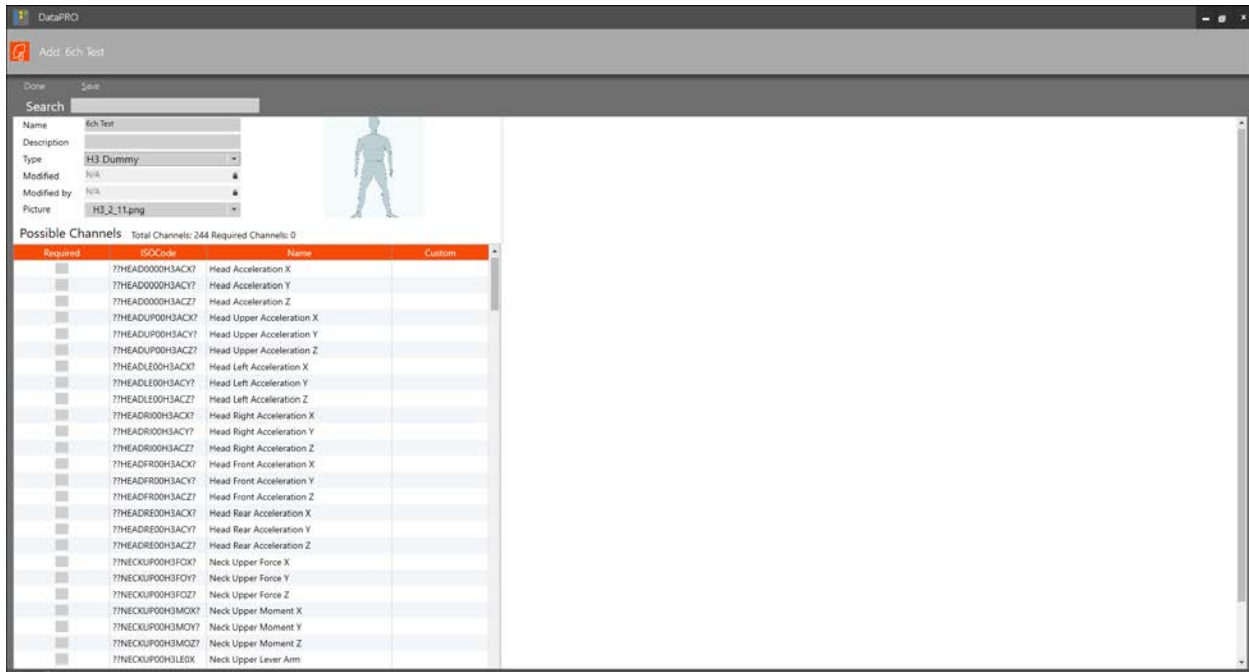
Prepare – ISO Mode

Group Templates



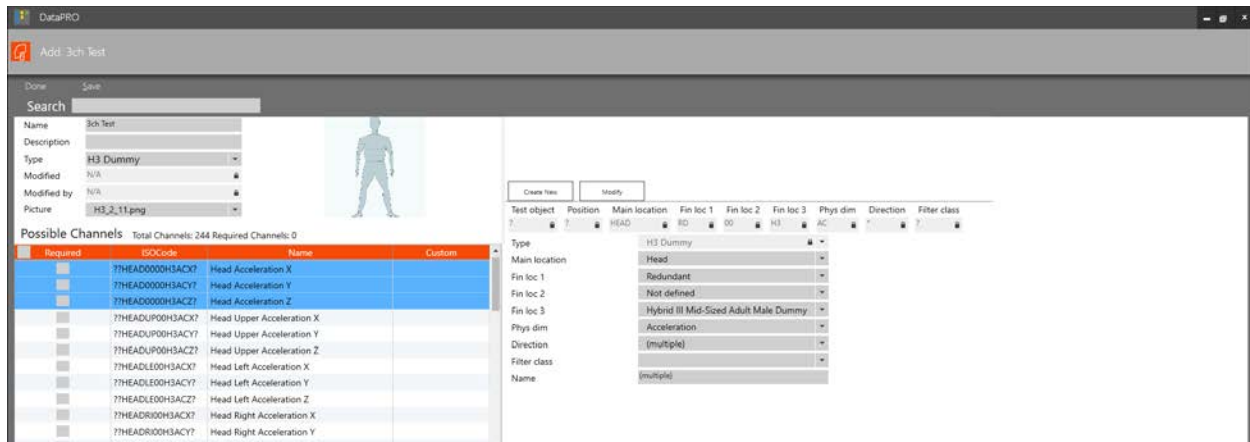
Create a Group Template

- A Click the Group Template tile
- B Click Add

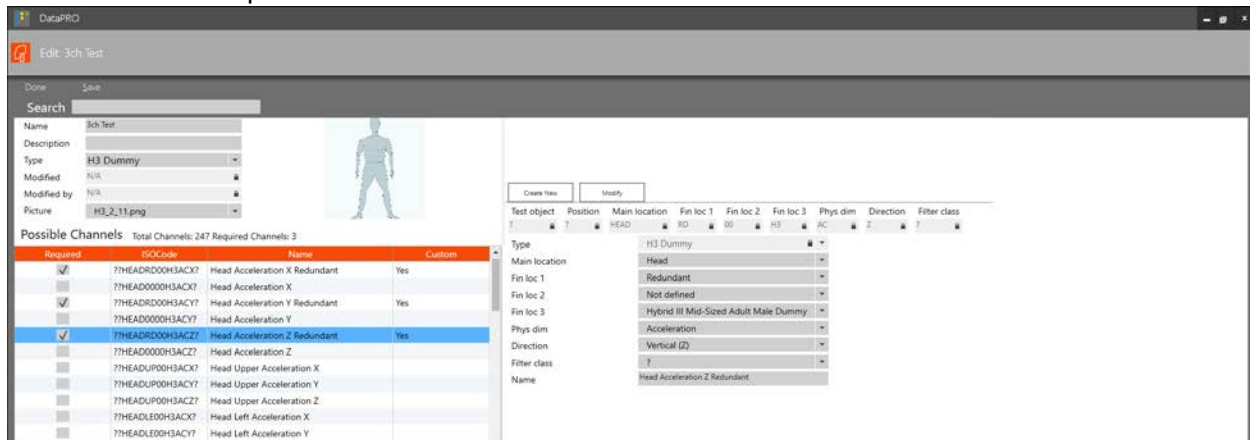


- A Enter Template name and optional description
- B Select Type
 - 1 This will enable selection of ISO channels associated with that Channel Type
- C Select template image from Picture drop down
- D Select channels required from list of Possible Channels
- E Click Save when finished

Add Custom Channels to a Group Template



- A Select/highlight the channel(s) to modify
 - 1 Multiple custom channels can be created or modified at once
- B Change the ISO code parameter using the drop downs on the right
 - 2 Fin loc 1 changed from Not defined to Redundant in the above example
- C Click Create New to create new Custom Channels
 - 3 If modifying an existing Custom Channel, click Modify to save changes
- D If desired, select each new custom channel to modify the channel Name. Click Modify to save edits to ISO parameters or Name



- E Click Save when finished

Edit a Group Template

- A Double click Group Template or select and click Edit
- B Edit fields on Info page as necessary
- C Click Channels and add/remove as necessary
- D Click Save when finished

Groups

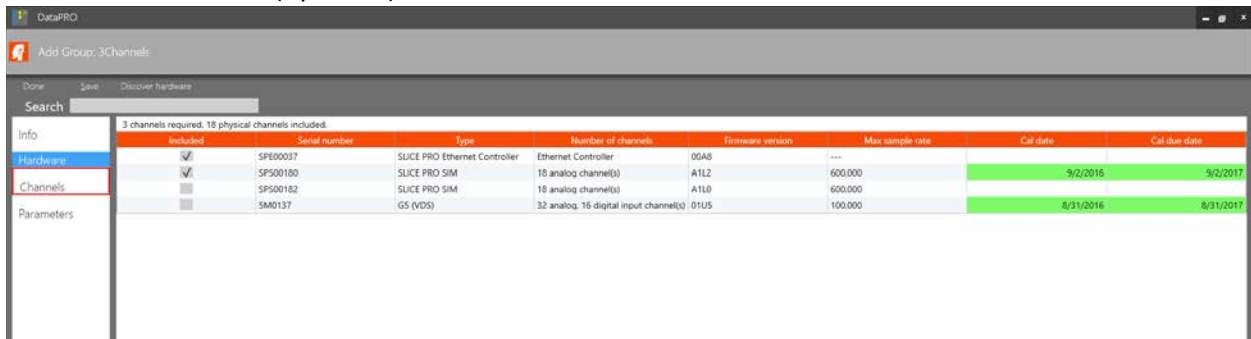


Create a Group

- A Click Groups tile
- B Click Add
- 1 Info

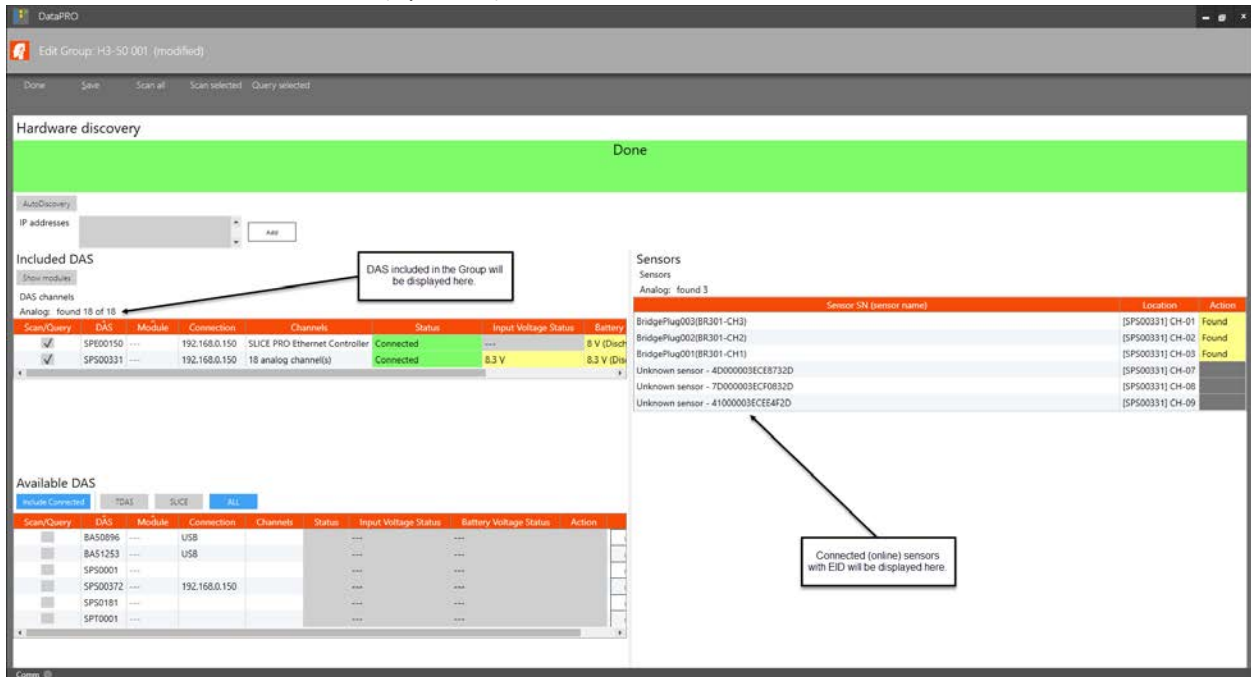


- a Select Template from dropdown
- b Enter Group Name
- 2 Hardware (optional)



- a Select DAS associated with Group

3 Discover hardware (optional)



The screenshot shows the DataPRO software interface with the following components:

- Hardware discovery:** A green bar at the top indicating the process is 'Done'.
- Included DAS:** A table listing discovered DAS modules. A callout box points to this table with the text: "DAS included in the Group will be displayed here."

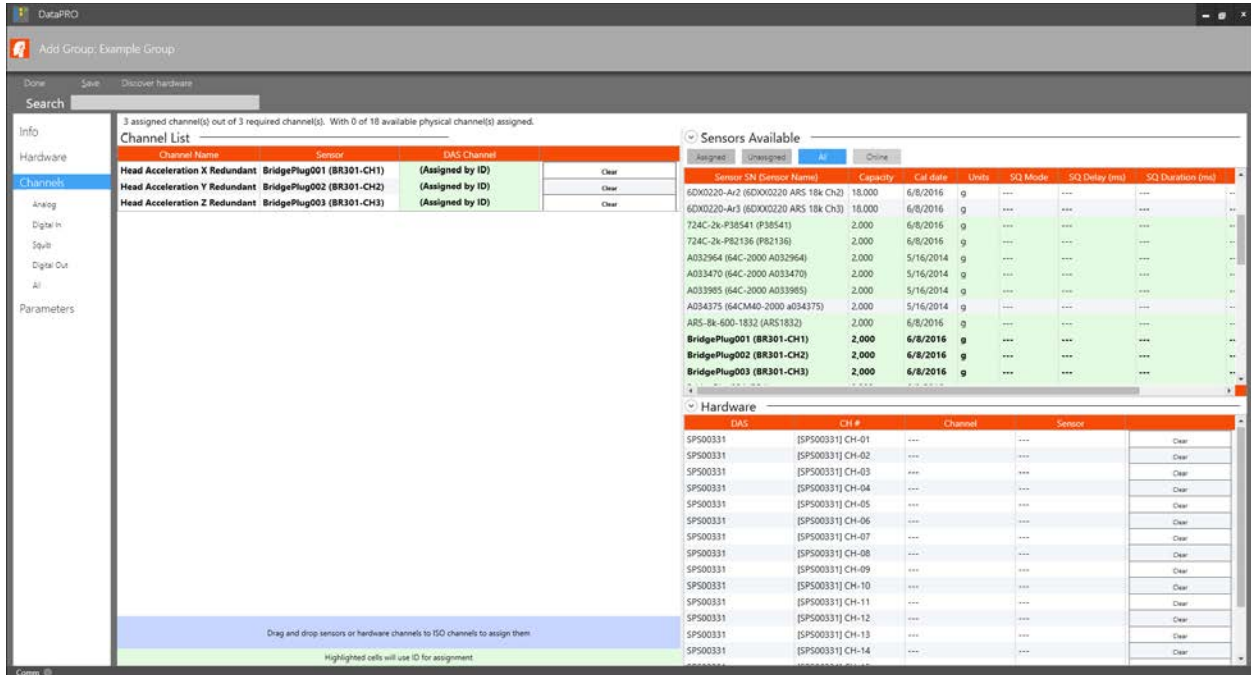
Scan/Query	DAS	Module	Connection	Channels	Status	Input Voltage Status	Battery
<input checked="" type="checkbox"/>	SP600150	---	192.168.0.150	SLICE PRO Ethernet Controller	Connected	---	8 V (Disch)
<input checked="" type="checkbox"/>	SP500331	---	192.168.0.150	18 analog channel(s)	Connected	8.3 V	8.3 V (Disch)
- Available DAS:** A table listing available DAS modules.

Scan/Query	DAS	Module	Connection	Channels	Status	Input Voltage Status	Battery Voltage Status	Action
<input type="checkbox"/>	BA50096	---	USB	---	---	---	---	---
<input type="checkbox"/>	BA51253	---	USB	---	---	---	---	---
<input type="checkbox"/>	SP500001	---	---	---	---	---	---	---
<input type="checkbox"/>	SP500372	---	192.168.0.150	---	---	---	---	---
<input type="checkbox"/>	SP50181	---	---	---	---	---	---	---
<input type="checkbox"/>	SPT0001	---	---	---	---	---	---	---
- Sensors:** A table listing discovered sensors. A callout box points to this table with the text: "Connected (online) sensors with EID will be displayed here."

Sensor SN (sensor name)	Location	Action
BridgePlug002(BR301-CH3)	[SP500331] CH-01	Found
BridgePlug002(BR301-CH2)	[SP500331] CH-02	Found
BridgePlug001(BR301-CH1)	[SP500331] CH-03	Found
Unknown sensor - 4D00003ECE8732D	[SP500331] CH-07	---
Unknown sensor - 7D00003ECF6832D	[SP500331] CH-08	---
Unknown sensor - 4100003ECE4F2D	[SP500331] CH-09	---

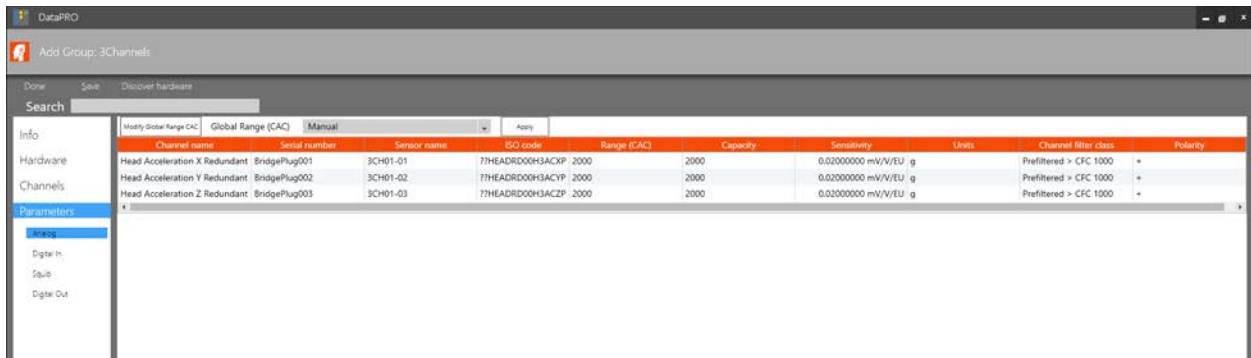
- a Click Discover Hardware
 - i To automatically scan and discover connected SLICE6, SLICE PRO ECM/SDB Ethernet devices turn on AutoDiscovery
 - ii To manually select DAS to query, tick boxes in Scan/Query column
- b Click Query selected
 - iii All connected (online) sensors with EID will be displayed in Sensors Table
- c Click Save to save the found/Included DAS and sensors to the group
- d Click Done

4 Channels



- Channel List displays the Channels/ISO Codes required (chosen in Group Template)
- Sensors Available lists all sensors in the database
 - Assign sensors by selecting from Sensors Available and drag to Channel List
- Hardware lists DAS selected in previous step (or added in Discover Hardware)
 - Assign sensors to Hardware Channels by selecting from Hardware table and dragging to Channel List
 - Only sensors without Dallas ID need to be assigned to Hardware Channels. Sensors with Dallas ID will auto-populate during Check Sensor ID.
- Use sub-navsteps to filter display by channel type

5 Parameters



- Change Range (CAC), Channel filter class, and Polarity for individual channels in group
 - Changes to channel parameters do not affect sensor settings in Sensor Database
- Click Modify Global Range CAC to modify Range for all channels in group
 - Click Apply to save changes to Range to the group
- Use sub-navsteps to filter display by channel type
- Click Save when finished

Edit a Group

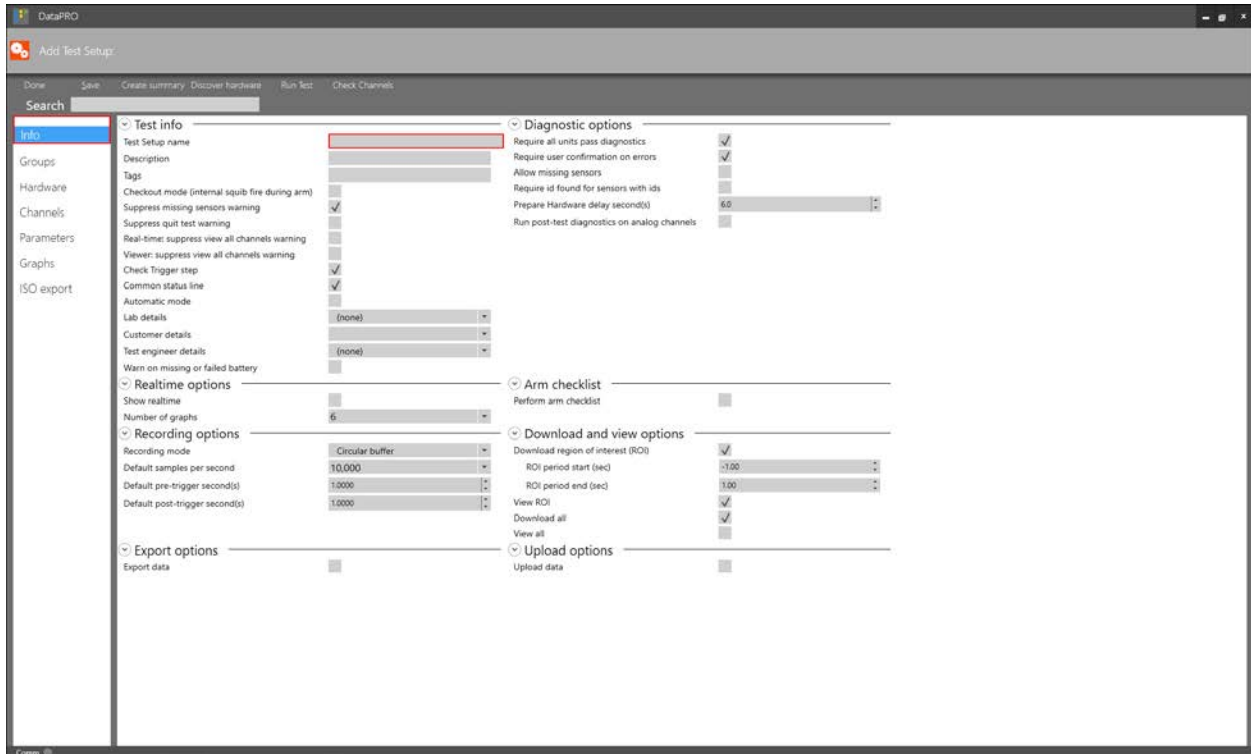
- A Click Groups tile
- B Double click group to be edited or select and click Edit
- C Click Group component to edit (Info, Hardware, Channels, Parameters)
- D Make changes as necessary
- E Click Save when finished

Test Setups



Create a Test Setup

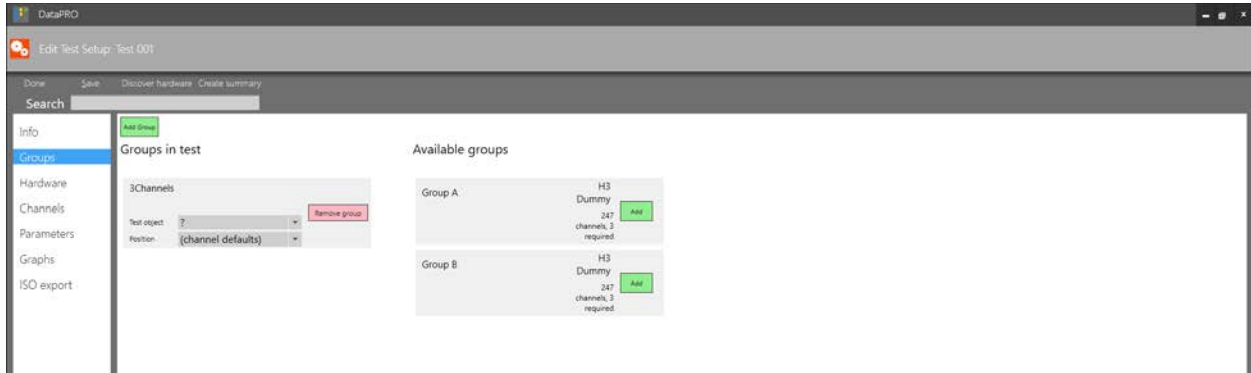
- A Click Test Setups tile
- B Click Add



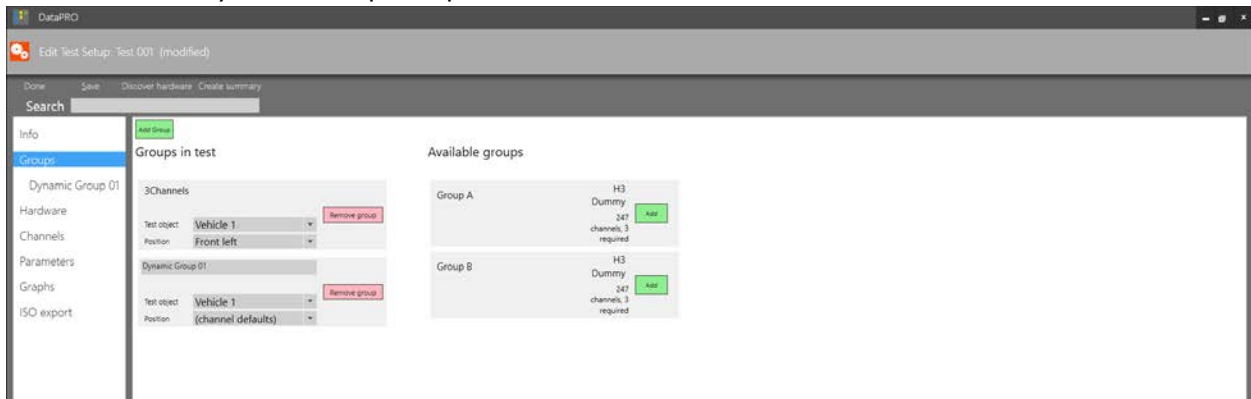
1 Info

Field	Description
Test setup name	Generic name; Unique Test ID will be entered at start of data collection.
Description	Optional field; can be modified/entered at start of data collection.
Tags	Used in combination with Tags in User settings to limit visibility of test setups to certain user groups.
Checkout mode	Select to fire squibs into internal loads for diagnostics
Suppress missing sensors warning	Select to suppress warning of "Not all sensors have been found" at Check ID navstep. Used in conjunction with 'Allow missing sensors' option.
Suppress quit test warning	Select to suppress warning of "Not all steps have been complete" when exiting Data Collection process early
Realtime: suppress view all channels warning	Select to suppress warning if "Not all channels have been viewed" in Realtime
Viewer: suppress view all channels warning	Select to suppress warning if "Not all channels have been viewed" in View Data
Check Trigger step	Select to include Trigger Check Step in data collection process.
Common status line	Select when all hardware in test is connected and shares the same status line. (Flex PLI+Vehicle channels, or FMH+Vehicle channels would be Non-Common Status Line.)
Automatic mode	Select to automatically progress to next step on completion
Lab details	Select record from drop down, or manually enter before data export
Customer details	Select record from drop down, or manually enter before data export
Engineer details	Select record from drop down, or manually enter before data export
Warn on missing or failed battery	Select to treat no Slice Nano Stack Battery, and failing Slice PRO batteries as a failure.
Show realtime	Select to include Realtime in data collection process. Choose to display 1, 3, or 6 charts in realtime.
Require all units pass diagnostics	Select to require that all units included in test pass diagnostics
Require user confirmation on errors	Select to require user to confirm errors in order to proceed
Allow missing sensors	Select to allow user to run a test if not all channels have been resolved (found by EID or manually assigned)
Require id found for sensors with ids	Select to require that the EID is detected for all channels that have EID assigned in Sensor Database
Prepare Hardware delay second(s)	Defined delay period at Diagnostics and Arm.
Run post-test diagnostics on analog channels	Select to include post-test diagnostics as a part of the data collection

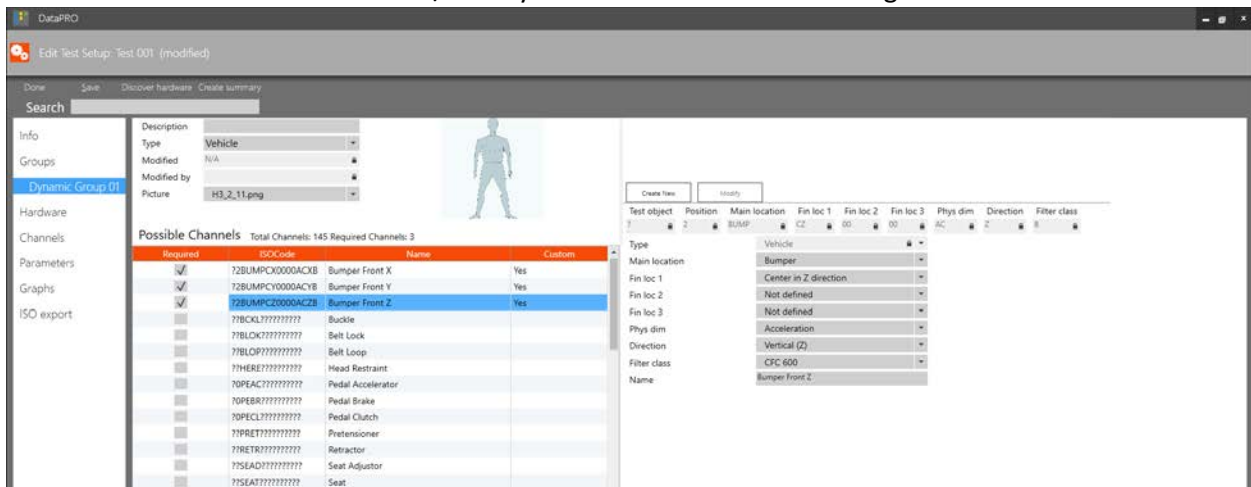
2 Groups



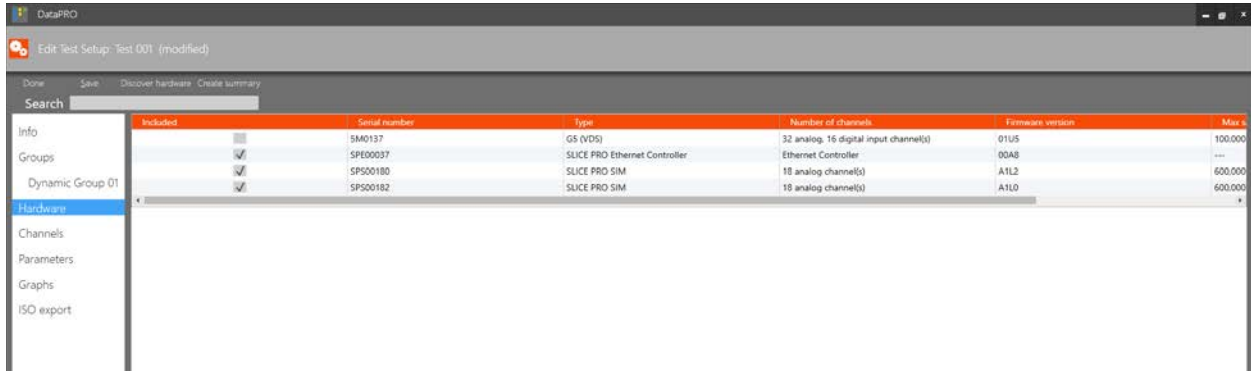
- Select predefined group(s) to use in test setup
- Select the Test object and Position for each Group
- Dynamic Group Setup



- Used for channels not associated with a pre-defined group
- Add by clicking Add Group button
- Enter name and select channel type and position for each Dynamic Group
- Select Dynamic Group to choose required channels/ISO Codes
 - Create new/modify ISO Codes as described on Page 16

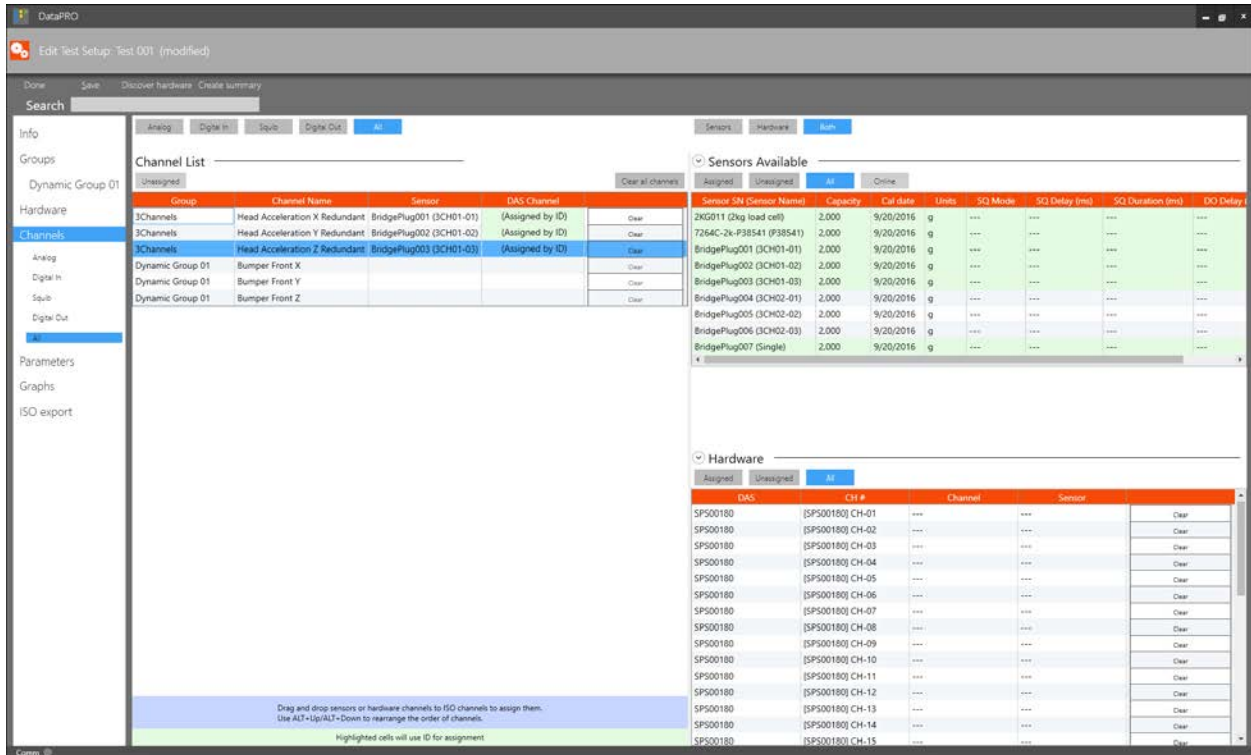


3 Hardware



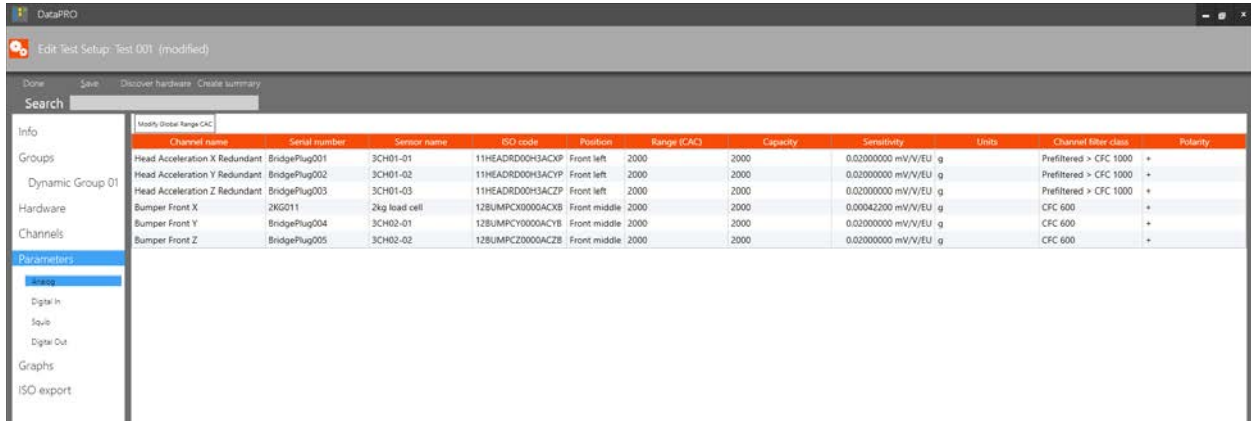
- a Any Data Recorders assigned to Groups included in Test Setup will be selected automatically
- b Add data recorders to Test Setup by selecting from list or by using Discover Hardware (Page 18)

4 Channels



- a Assign sensors to Dynamic Group channels
- b Assign Hardware Channels by selecting from Hardware table and drag to Channel List
 - i Only sensors without Dallas ID need to be assigned to Hardware Channels. Sensors with Dallas ID will auto-populate during Check Sensor ID.

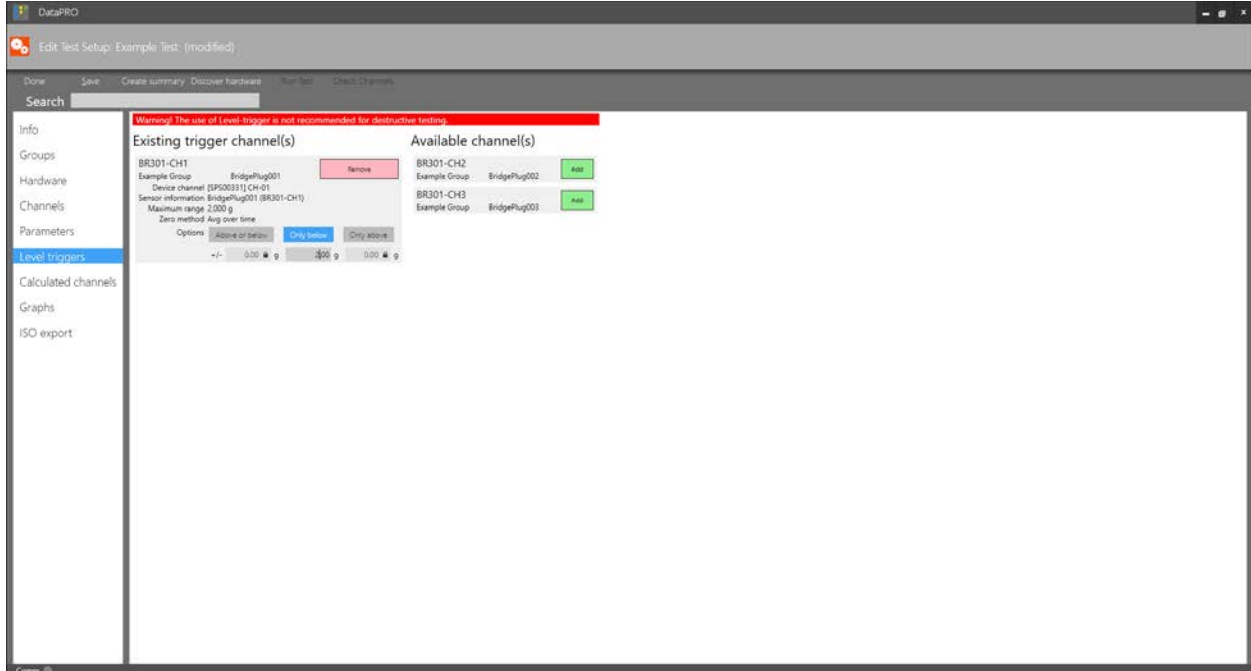
5 Parameters



Channel name	Serial number	Sensor name	ISO code	Position	Range (CAC)	Capacity	Sensitivity	Units	Channel filter class	Polarity
Head Acceleration X Redundant	BridgePlug001	3CH01-01	11HEADRD00H3AC0P	Front left	2000	2000	0.02000000 mV/V/EU	g	Prefiltered > CFC 1000	+
Head Acceleration Y Redundant	BridgePlug002	3CH01-02	11HEADRD00H3AC0P	Front left	2000	2000	0.02000000 mV/V/EU	g	Prefiltered > CFC 1000	+
Head Acceleration Z Redundant	BridgePlug003	3CH01-03	11HEADRD00H3AC0P	Front left	2000	2000	0.02000000 mV/V/EU	g	Prefiltered > CFC 1000	+
Bumper Front X	2KG011	2kg lead cell	12BUMPCY000AC0B	Front middle	2000	2000	0.00042200 mV/V/EU	g	CFC 600	+
Bumper Front Y	BridgePlug004	3CH02-01	12BUMPCY000AC0B	Front middle	2000	2000	0.02000000 mV/V/EU	g	CFC 600	+
Bumper Front Z	BridgePlug005	3CH02-02	12BUMPCZ000AC0B	Front middle	2000	2000	0.02000000 mV/V/EU	g	CFC 600	+

- Lists channels included in Test setup by channel type
- Change Position, Range, Filter Class, and Polarity for each analog channel
- Click Modify Global Range CAC to modify CAC of all analog channels

6 Level Trigger (if enabled)

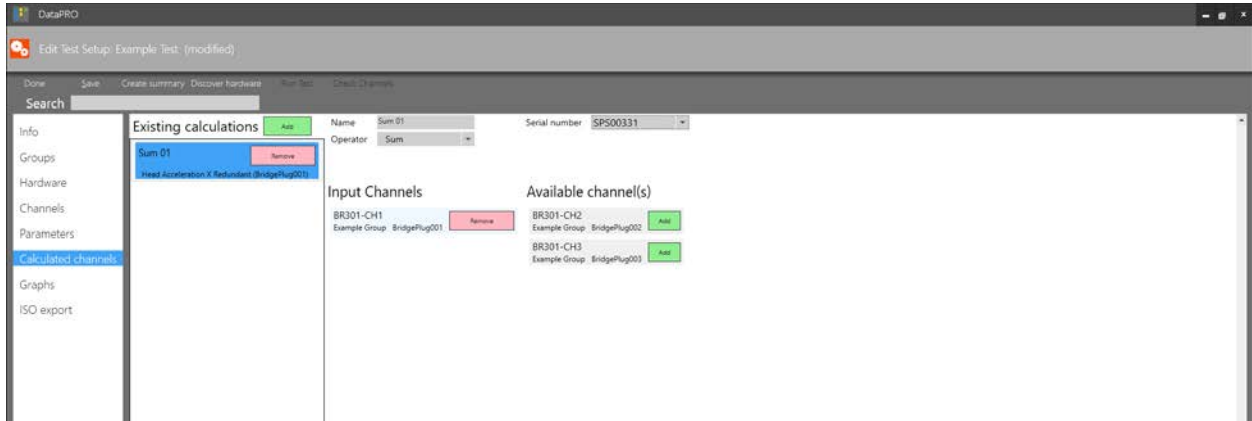


Warning! The use of Level trigger is not recommended for destructive testing!

Existing trigger channel(s)		Available channel(s)	
BR301-CH1	Remove	BR301-CH2	Add
Example Group	BridgePlug001	Example Group	BridgePlug002
Device channel	[SP0031] CH 01	BR301-CH3	Add
Sensor information	BridgePlug001 (BR301-CH1)	Example Group	BridgePlug003
Maximum range	2.000 g		
Zero method	Avg over time		
Options	Above or below	Only below	Only above
	-/- 0.00 g	200 g	0.00 g

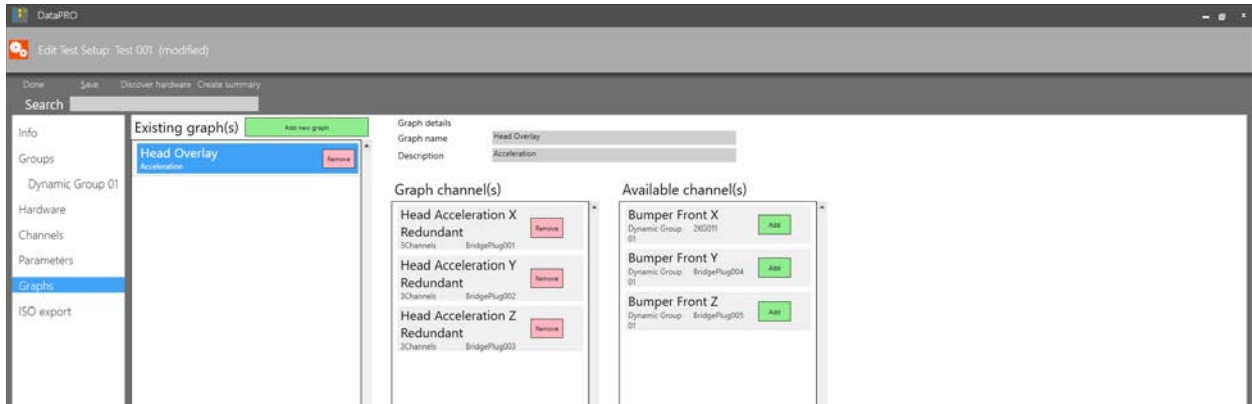
- Only channels that have hardware channel locations assigned will be listed as Available channels
- Select Add to add a channel as a Level Trigger
- Select the trigger threshold parameters
 - Triggering options are dependent on DAS type
 - Trigger threshold must be above 0.5% of sensor capacity

7 Calculated Channels (if enabled)



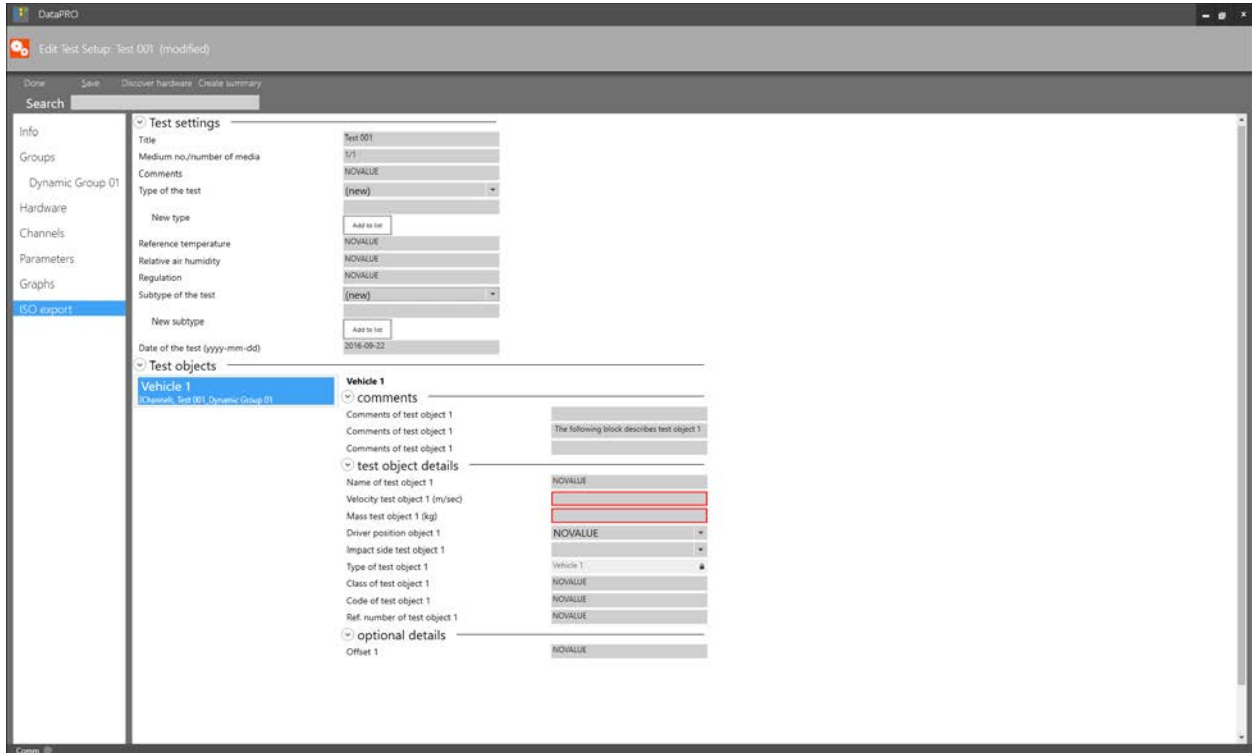
- a Only channels that have hardware channel locations assigned will be listed as Available channels
- b Select Add to add a calculated channel to Test Setup
- c Enter Calculated channel name
- d Select type of calculated channel from Operator drop down
 - i Average, Sum, and IR-TRACC calculations are currently available
- e Select DAS from Serial number dropdown
- f Select channels to include in calculation from Available channel(s)
- g Select Calculated channel from Existing calculations to display Input Channels

8 Graphs



- a Add custom graph overlays of multiple channels

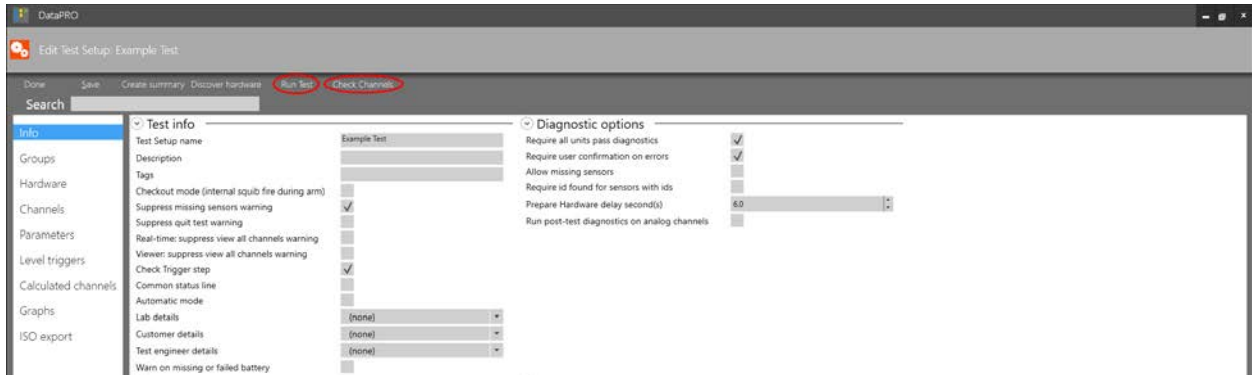
9 ISO Export



The screenshot shows the 'Edit Test Setup: Test 001' window. The left sidebar has 'ISO export' selected. The main area is divided into 'Test settings' and 'Test objects' sections. 'Test settings' includes fields for Title, Medium no./number of media, Comments, Type of the test, New type, Reference temperature, Relative air humidity, Regulation, Subtype of the test, New subtype, and Date of the test. 'Test objects' includes a 'Vehicle 1' section with 'comments' and 'test object details' sub-sections. The 'test object details' section has fields for Name, Velocity, Mass, Driver position, Impact side, Type, Class, Code, Ref. number, and optional details like Offset.

a Enter information as needed

10 Click Save when finished



The screenshot shows the 'Edit Test Setup: Example Test' window. The top toolbar has 'Run Test' and 'Check Channels' buttons highlighted with red circles. The left sidebar has 'Info' selected. The main area shows 'Test info' and 'Diagnostic options' sections. 'Test info' includes fields for Test Setup name, Description, Tags, Checkout mode, Suppress missing sensors warning, Suppress quit test warning, Real-time: suppress view all channels warning, Viewer: suppress view all channels warning, Check Trigger step, Common status line, Automatic mode, Lab details, Customer details, Test engineer details, and Warn on missing or failed battery. 'Diagnostic options' includes checkboxes for Require all units pass diagnostics, Require user confirmation on errors, Allow missing sensors, Require id found for sensors with ids, Prepare Hardware delay (seconds), and Run post-test diagnostics on analog channels.

a Select Run Test or Check Channels to immediately begin a data collection or diagnostic channel checkout

Edit a Test Setup

- A Click Test Setups tile
- B Double click Test Setup to be edited or select and click Edit
- C Click Test Setup component to edit on left (Info, Groups, Hardware, Channels, Parameters, Level Trigger, Calculated Channels, Graphs, ISO Export)
- D Make changes as necessary
- E Click Save when finished

Replace a sensor

- A Click Test Setup tile
- B Double click Test Setup to be edited
- C Click Channels navstep
- D Make sensor assignment changes as necessary

NOTE: Changes made to groups from the Test Setup tile will only apply to the Test Setup and not the Group.

- E Click Save when finished

Modify sensor settings (position, polarity, filter class, range)

- A Click Test Setups tile
- B Double click desired Test Setup
- C Click Sensor Settings
- D Select sensor and modify settings as needed
- E Click Save when finished

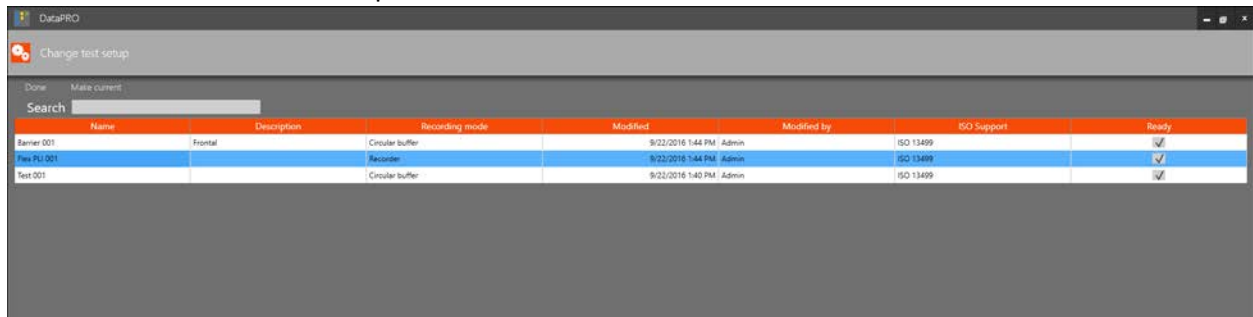
Change Hardware

- A Click Test Setup tile
- B Double click the test setup to be modified
- C Click Hardware navstep
- D Make necessary changes
- E Click Save when finished

Change Current Test Setup



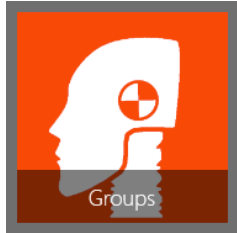
- A Click Current Test Setup in header bar



- B Select desired test setup and click Make Current

Prepare – Non-ISO Mode

Groups

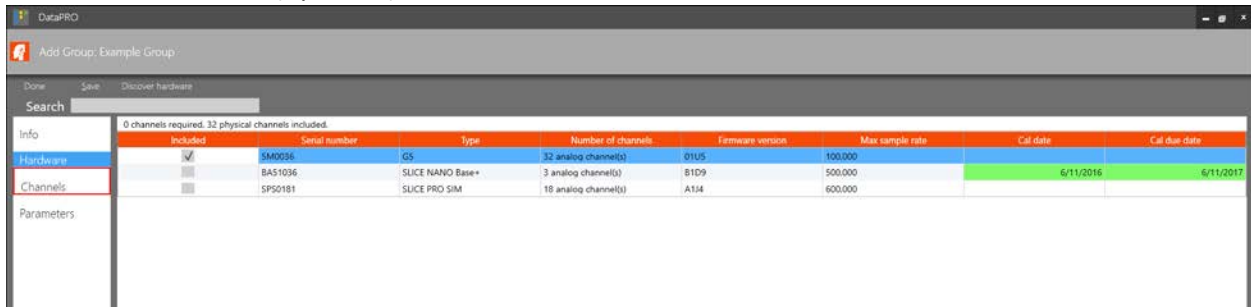


Create a Group

- A Click Groups tile
- B Click Add
- 1 Info

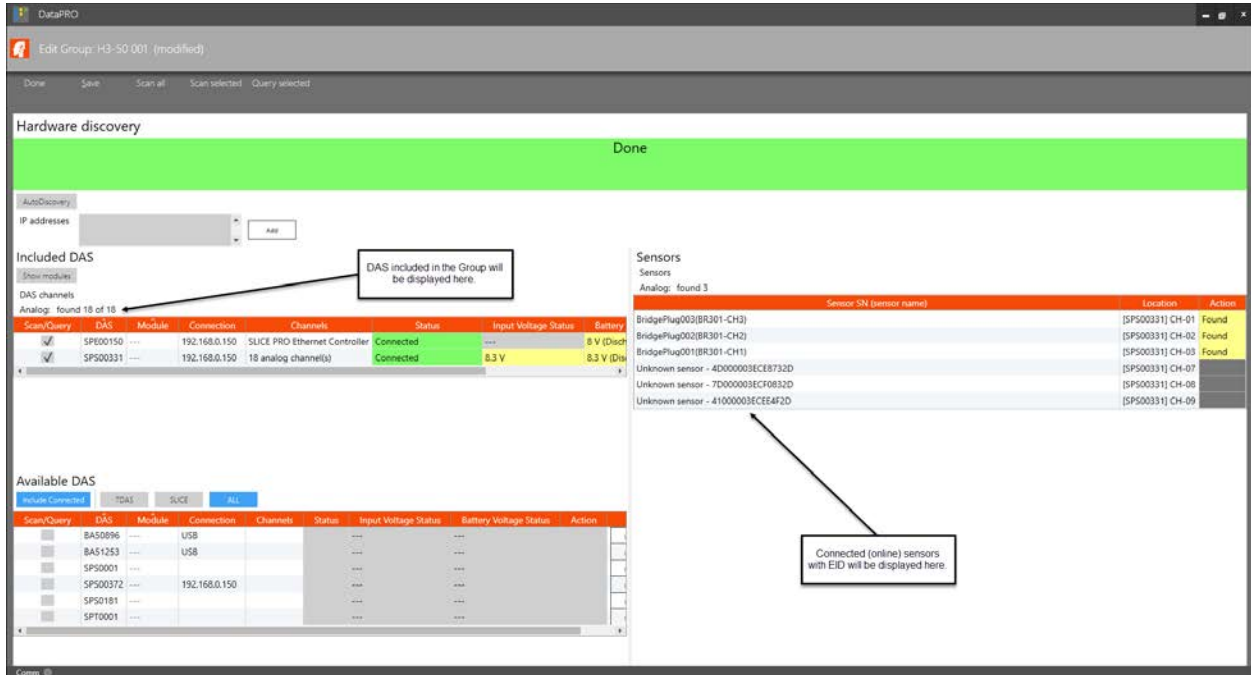


- a. Enter Group name
- b. Select Group image (optional)
- 2 Hardware (optional)



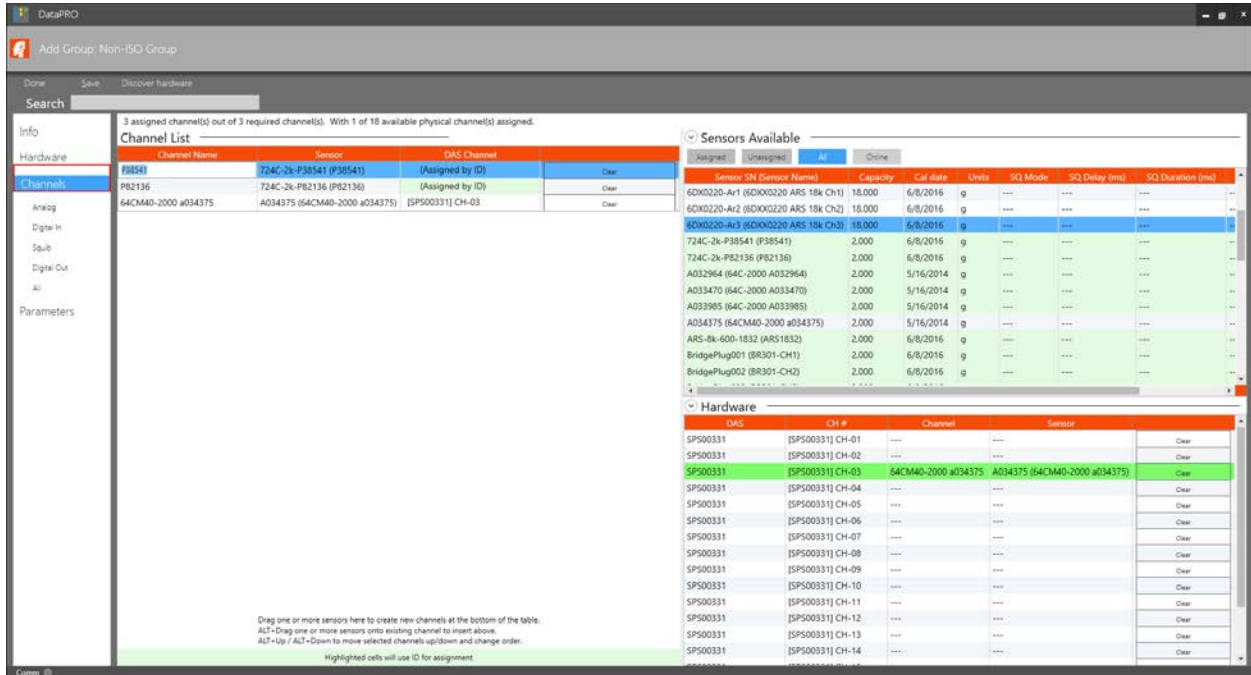
- a. Select DAS associated with group

3 Discover Hardware (optional)



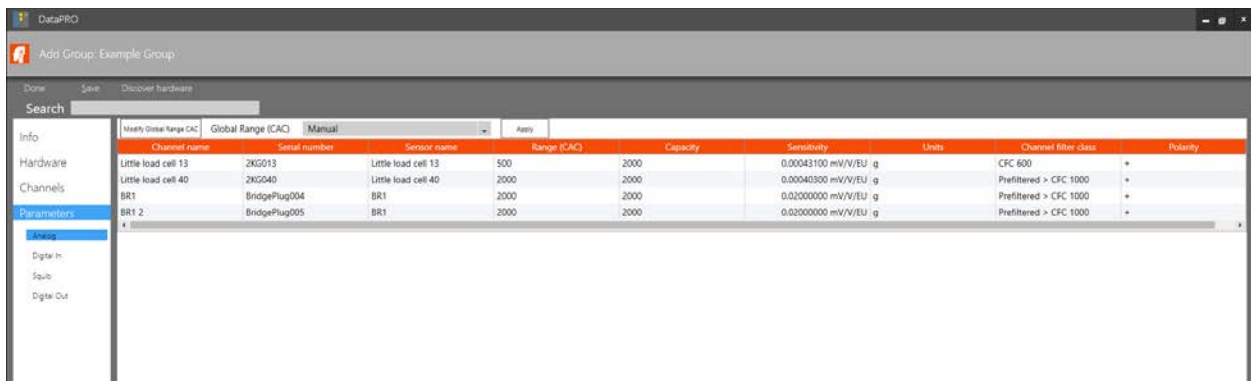
- e Click Discover Hardware
 - iv To automatically scan and discover connected SLICE6, SLICE PRO ECM/SDB Ethernet devices turn on AutoDiscovery
 - v To manually select DAS to query, tick boxes in Scan/Query column
- f Click Query selected
 - vi All connected (online) sensors with EID will be displayed in Sensors Table
- g Click Save to save the found/Included DAS and sensors to the group
- h Click Done

4 Channels



- a Channel List displays the Channels required/added to Group
 - i Default Channel Name is the Serial Number, double click to modify
- b Sensors Available lists all sensors in the database
 - i Assign sensors to group by selecting from Sensors Available and drag to Channel List
- c Hardware lists DAS selected in previous step (or added in Discover Hardware)
 - i Assign sensors to Hardware Channels by selecting from Hardware table and dragging to Channel List
 - ii Only sensors without Dallas ID need to be assigned to Hardware Channels. Sensors with Dallas ID will auto-populate during Check Sensor ID.
- d Use sub-navsteps to filter display by channel type

4 Parameters



- a Change Range (CAC), Channel filter class, and Polarity for individual analog channels in group
- b Click Modify Global Range CAC to modify Range for all analog channels in group
 - i Click Apply to save changes to Range to the group
- c Use sub-navsteps to filter display by channel type
- d Click Save when finished

Edit a Group

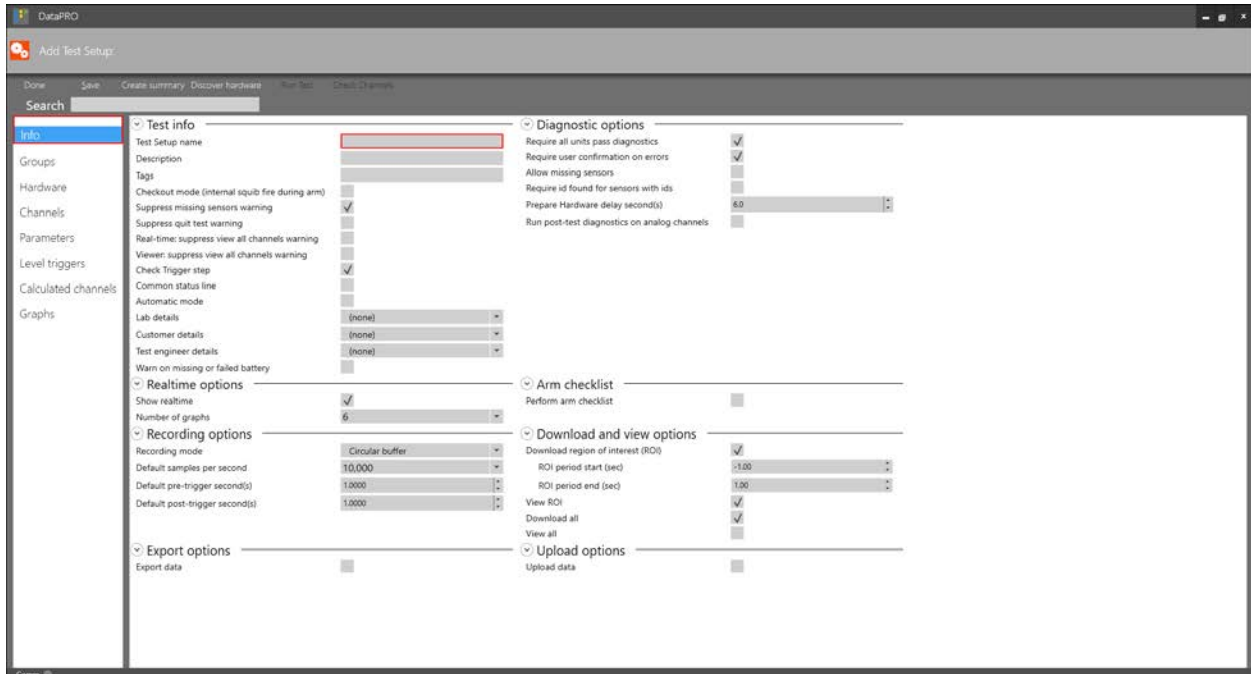
- A Click Groups tile
- B Double click group to be edited or select and click Edit
- C Click Group component to edit (Info, Hardware, Channels, Parameters)
- D Make changes as necessary
- E Click Save when finished

Test Setups



Create a Test Setup

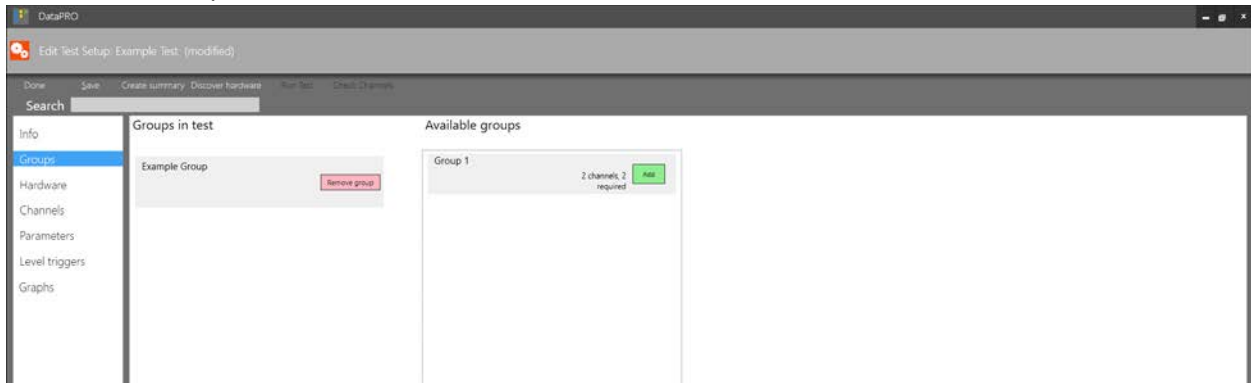
- A Click Test Setups tile
- B Click Add



1 Info

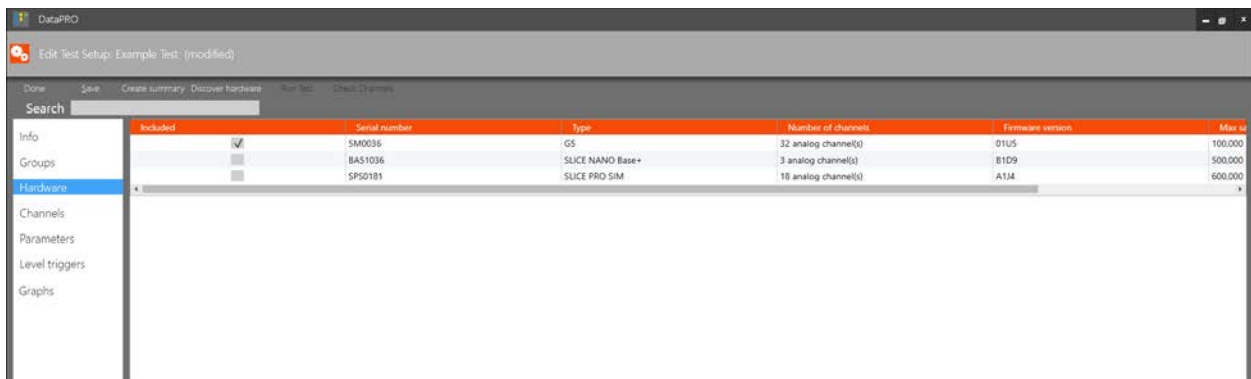
Field	Description
Test setup name	Generic name; Unique Test ID will be entered at start of data collection.
Description	Optional field; can be modified/entered at start of data collection.
Tags	Used in combination with Tags in User settings to limit visibility of test setups to certain user groups.
Checkout mode	Select to fire squibs into internal loads for diagnostics
Suppress mission sensors warning	Select to suppress warning of "Not all sensors have been found" at Check ID navstep. Used in conjunction with 'Allow missing sensors' option.
Suppress quite test warning	Select to suppress warning of "Not all steps have been complete" when exiting Data Collection process early
Realtime: suppress view all channels warning	Select to suppress warning if "Not all channels have been viewed" in Realtime
Viewer: suppress view all channels warning	Select to suppress warning if "Not all channels have been viewed" in View Data
Check Trigger step	Select to include Trigger Check Step in data collection process.
Common status line	Select when all hardware in test is connected and shares the same status line. (Flex PLI+Vehicle channels, or FMH+Vehicle channels would be Non-Common Status Line.)
Automatic mode	Select to automatically progress to next step on completion
Lab details	Select Lab Details record from drop down. (ISO Mode feature.)
Customer details	Select Customer Details record from drop down. (ISO Mode feature.)
Engineer details	Select Engineer Details record from drop down. (ISO Mode feature.)
Warn on missing or failed battery	Select to treat no SliceNano Stack Battery, and failing SlicePRO batteries as a failure.
Show realtime	Select to include Realtime in data collection process. Choose to display 1, 3, or 6 charts in realtime.
Require all units pass diagnostics	Select to require that all units included in test pass diagnostics
Require user confirmation on errors	Select to require user to confirm errors in order to proceed
Allow missing sensors	Select to allow user to run a test if not all channels have been resolved (found by EID or manually assigned)
Require id found for sensors with ids	Select to require that the EID is detected for all channels that have EID assigned in Sensor Database
Prepare Hardware delay second(s)	Defined delay period at Diagnostics and Arm.
Run post-test diagnostics on analog channels	Select to include post-test diagnostics as a part of the data collection

2 Groups



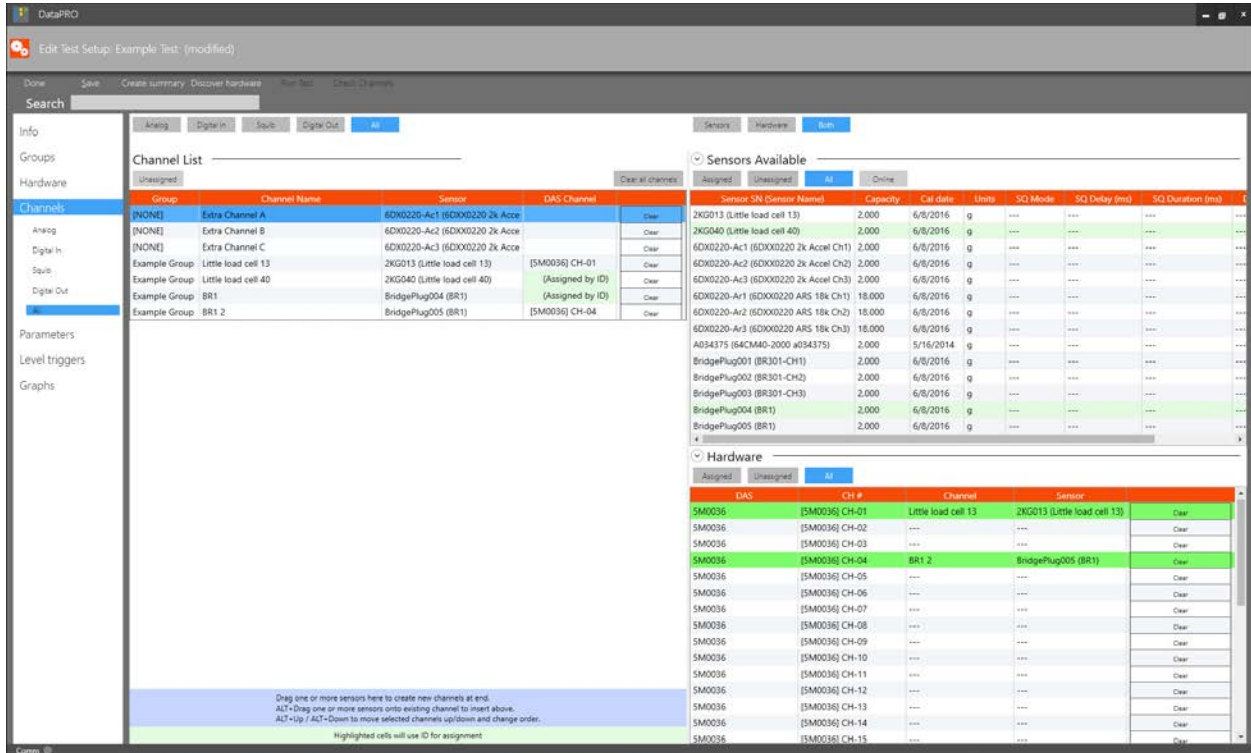
- a Select predefined group(s) to use in test setup

3 Hardware



- a Any Data Recorders assigned to Groups included in Test Setup will be selected automatically
- b Add data recorders to Test Setup by selecting from list or by using Discover Hardware (Page 31)

4 Channels



The screenshot shows the DataPRO interface with the 'Edit Test Setup' window. The 'Channel List' table is as follows:

Group	Channel Name	Sensor	DAS Channel	Action
[NONE]	Extra Channel A	6DX0220-Ac1 (6DX00220 2k Acce		Clear
[NONE]	Extra Channel B	6DX0220-Ac2 (6DX00220 2k Acce		Clear
[NONE]	Extra Channel C	6DX0220-Ac3 (6DX00220 2k Acce		Clear
Example Group	Little load cell 13	2KG013 (Little load cell 13)	[SM0036] CH-01	Clear
Example Group	Little load cell 40	2KG040 (Little load cell 40)	(Assigned by ID)	Clear
Example Group	BR1	BridgePlug004 (BR1)	(Assigned by ID)	Clear
Example Group	BR1 2	BridgePlug005 (BR1)	[SM0036] CH-04	Clear

The 'Sensors Available' table is as follows:

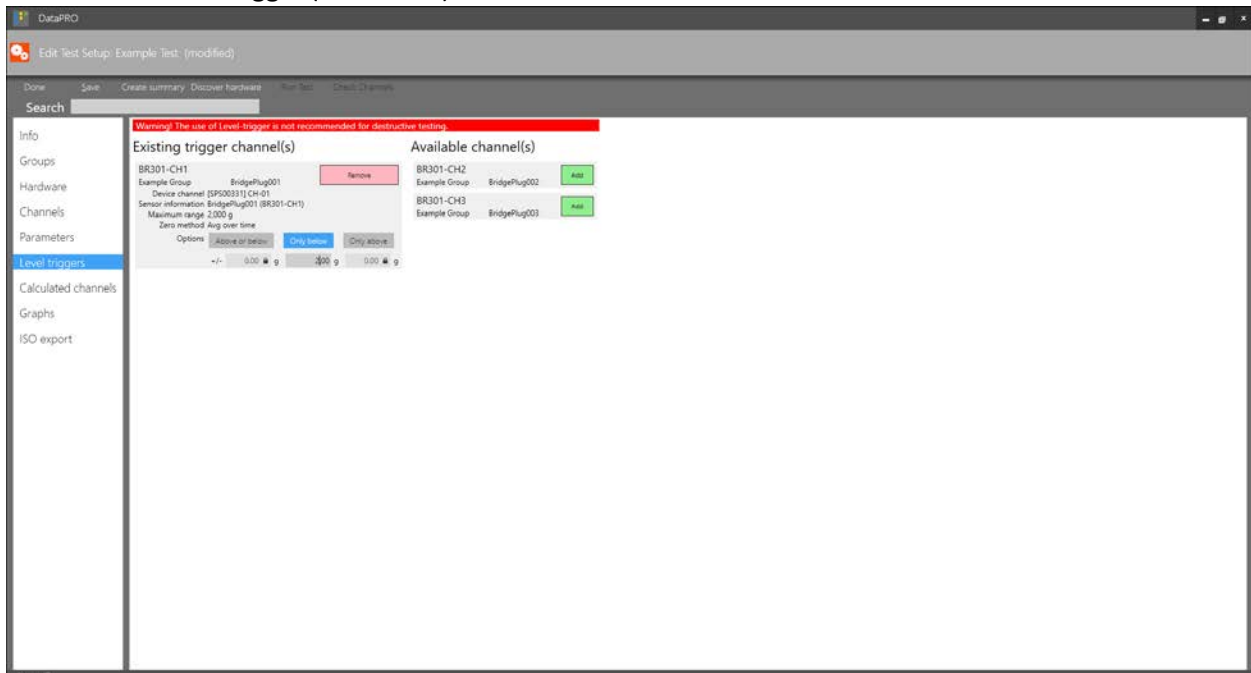
Sensor SN (Sensor Name)	Capacity	Cal date	Units	SQ Mode	SQ Delay (ms)	SQ Duration (ms)	Action
2KG013 (Little load cell 13)	2,000	6/8/2016	g	---	---	---	Clear
2KG040 (Little load cell 40)	2,000	6/8/2016	g	---	---	---	Clear
6DX0220-Ac1 (6DX00220 2k Acce	2,000	6/8/2016	g	---	---	---	Clear
6DX0220-Ac2 (6DX00220 2k Acce	2,000	6/8/2016	g	---	---	---	Clear
6DX0220-Ac3 (6DX00220 2k Acce	2,000	6/8/2016	g	---	---	---	Clear
6DX0220-Ar1 (6DX00220 ARS 18k	18,000	6/8/2016	g	---	---	---	Clear
6DX0220-Ar2 (6DX00220 ARS 18k	18,000	6/8/2016	g	---	---	---	Clear
6DX0220-Ar3 (6DX00220 ARS 18k	18,000	6/8/2016	g	---	---	---	Clear
A034375 (S4CM40-2000 u034375)	2,000	5/16/2014	g	---	---	---	Clear
BridgePlug001 (BR301-CH1)	2,000	6/8/2016	g	---	---	---	Clear
BridgePlug002 (BR301-CH2)	2,000	6/8/2016	g	---	---	---	Clear
BridgePlug003 (BR301-CH3)	2,000	6/8/2016	g	---	---	---	Clear
BridgePlug004 (BR1)	2,000	6/8/2016	g	---	---	---	Clear
BridgePlug005 (BR1)	2,000	6/8/2016	g	---	---	---	Clear

The 'Hardware' table is as follows:

DAS	CH #	Channel	Sensor	Action
SM0036	[SM0036] CH-01	Little load cell 13	2KG013 (Little load cell 13)	Clear
SM0036	[SM0036] CH-02	---	---	Clear
SM0036	[SM0036] CH-03	---	---	Clear
SM0036	[SM0036] CH-04	BR1 2	BridgePlug005 (BR1)	Clear
SM0036	[SM0036] CH-05	---	---	Clear
SM0036	[SM0036] CH-06	---	---	Clear
SM0036	[SM0036] CH-07	---	---	Clear
SM0036	[SM0036] CH-08	---	---	Clear
SM0036	[SM0036] CH-09	---	---	Clear
SM0036	[SM0036] CH-10	---	---	Clear
SM0036	[SM0036] CH-11	---	---	Clear
SM0036	[SM0036] CH-12	---	---	Clear
SM0036	[SM0036] CH-13	---	---	Clear
SM0036	[SM0036] CH-14	---	---	Clear
SM0036	[SM0036] CH-15	---	---	Clear

- Add additional channels to Test Setup by selecting from Sensors Available table and drag to Channel List
- Assign Hardware Channels by selecting from Hardware table and drag to Channel List
 - Only sensors without Dallas ID need to be assigned to Hardware Channels. Sensors with Dallas ID will auto-populate during Check Sensor ID.
- Change Channel Name for any channel in Channel List by double clicking to edit

5 Level Trigger (if enabled)

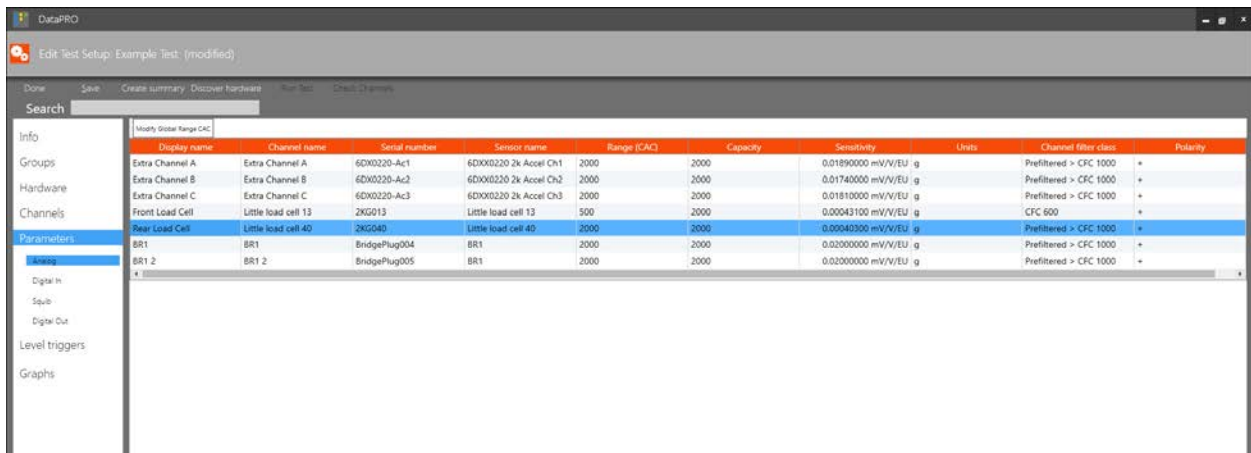


The screenshot shows the 'Level Triggers' configuration window in DataPRO. A warning message states: "Warning! The use of Level trigger is not recommended for destructive testing." The window is divided into two sections: 'Existing trigger channel(s)' and 'Available channel(s)'. The 'Existing trigger channel(s)' section shows a channel named 'BR301-CH1' with a device channel of 'SP0003131 CH-01' and a sensor of 'BridgePlug001'. The 'Available channel(s)' section shows three channels: 'BR301-CH2', 'BR301-CH3', and 'BR301-CH4', each with an 'Add' button. Below these sections, there are options for 'Assign or remove' and 'Only display', and a 'Zero method Avg over time' checkbox. At the bottom, there are input fields for 'Level' and 'Hysteresis'.

- a Only channels that have hardware channel locations assigned will be listed as Available channels
 - b Select Add to add a channel as a Level Trigger
 - c Select the trigger threshold parameters
 - i Triggering options are dependent on DAS type
 - ii Trigger threshold must be above 0.5% of sensor capacity
- 6 Calculated Channels (if enabled)



- a Only channels that have hardware channel locations assigned will be listed as Available channels
 - b Select Add to add a calculated channel to Test Setup
 - c Enter Calculated channel name
 - d Select type of calculated channel from Operator drop down
 - i Average, Sum, and IR-TRACC calculations are currently available
 - e Select DAS from Serial number dropdown
 - f Select channels to include in calculation from Available channel(s)
 - g Select Calculated channel from Existing calculations to display Input Channels
- 7 Parameters



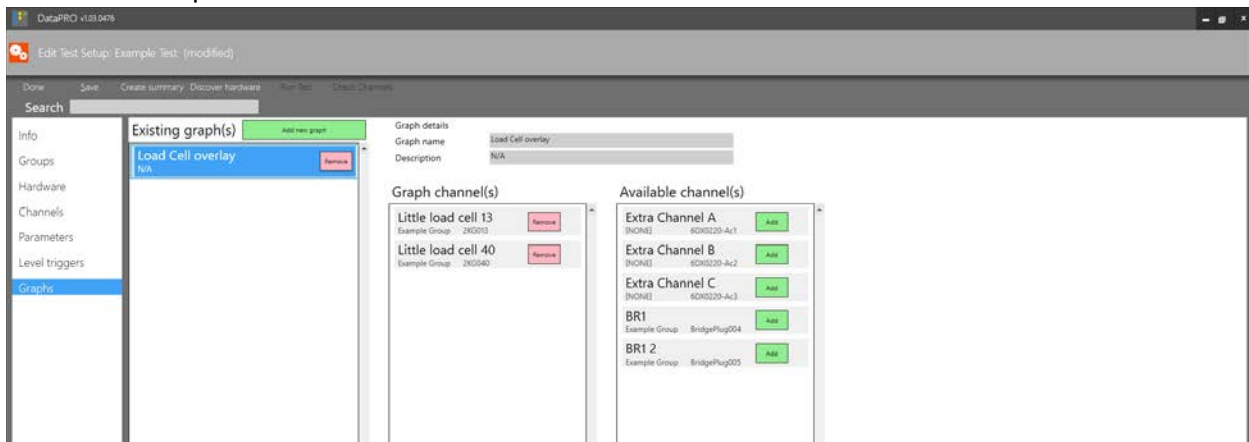
- a Lists channels included in Test setup by channel type
- b Change Display Name, Range, Filter Class, and Polarity for each analog channel
- c Click Modify Global Range CAC to modify CAC of all analog sensors

8 Level Trigger



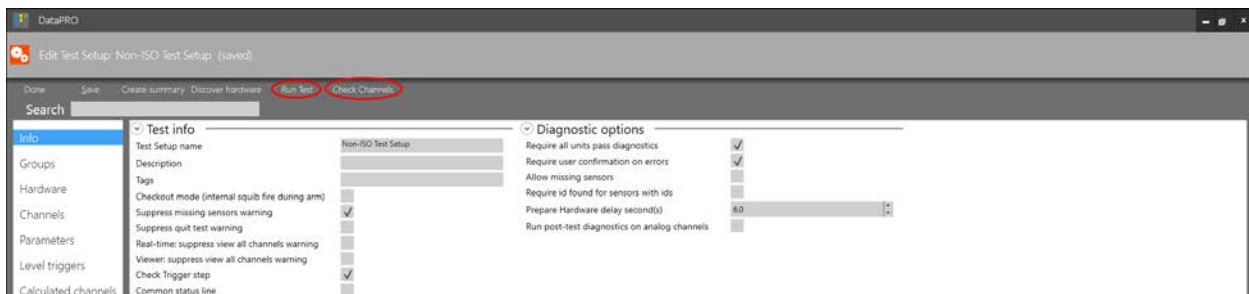
- a If enabled, a Level Trigger can be established.
- b Only channels that have been manually assigned to a hardware channel can be used as a Level Trigger.

9 Graphs



- a Add custom graphs of multiple channels

10 Click Save when finished



- a Select Run Test or Check Channels to immediately begin a data collection or diagnostic channel checkout

Edit a Test Setup

- A Click Test Setups tile
- B Double click Test Setup to be edited or select and click Edit
- C Click Test Setup component to edit on left (Info, Groups, Hardware, Channels, Parameters, Level triggers, Calculated channels, Graphs)
- D Make changes as necessary
- E Click Save when finished

Add/Remove a sensor

- A Click Test Setup tile
- B Double click Test Setup to be edited or select and click Edit
- C Click Channels; add additional channels by following steps listed above, remove channels by clicking Clear button
NOTE: Clearing a channel clears any parameter/name changes applied to that channel
NOTE: Changes made to groups from the Test Setup tile will only apply to the Test setup and not the Group.
- D Click Save when finished

Modify sensor settings (display name, polarity, filter class, range)

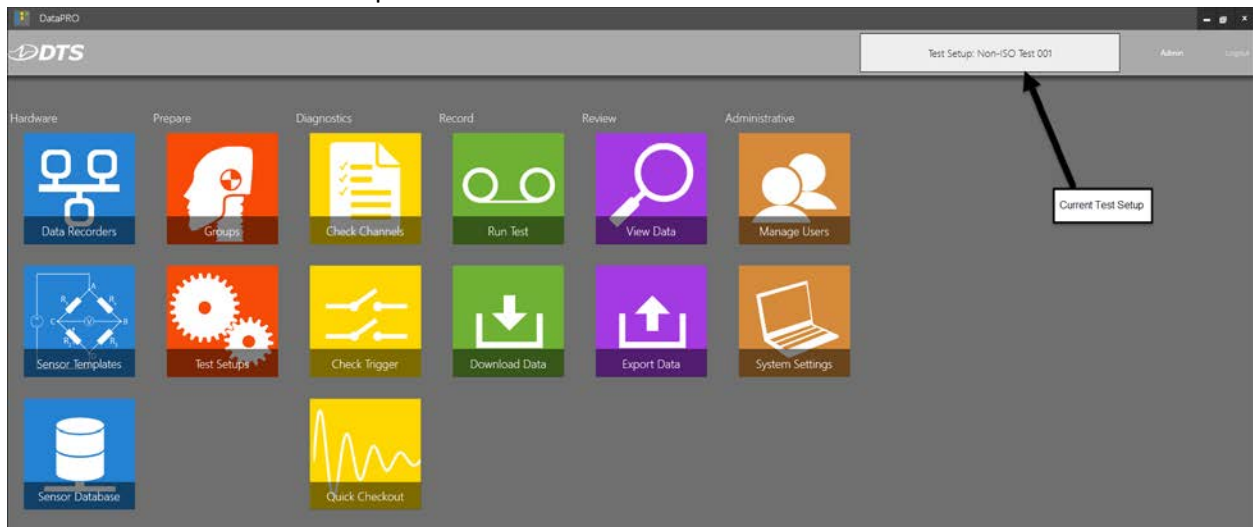
- A Click Test Setups tile
- B Double click Test Setup to be edited or select and click Edit
- C Click Parameters
- D Select channel and modify settings as needed
- E Click Save when finished

Change Hardware

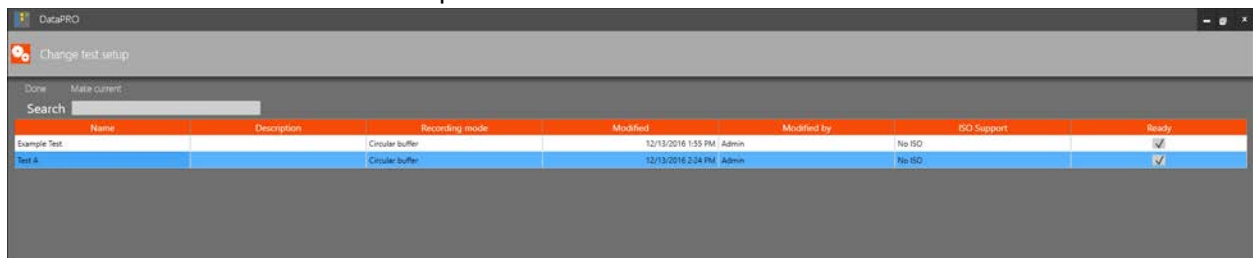
- A Click Test Setup tile
- B Double click Test Setup to be edited or select and click Edit
- C Click Hardware navstep
- D Make necessary changes
- E Click Save when finished

Change Current Test Setup

- A Click Current Test Setup in header bar

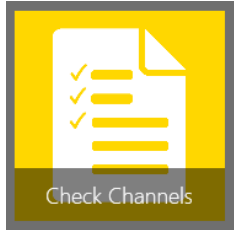


- B Select test desired test setup and click Make Current

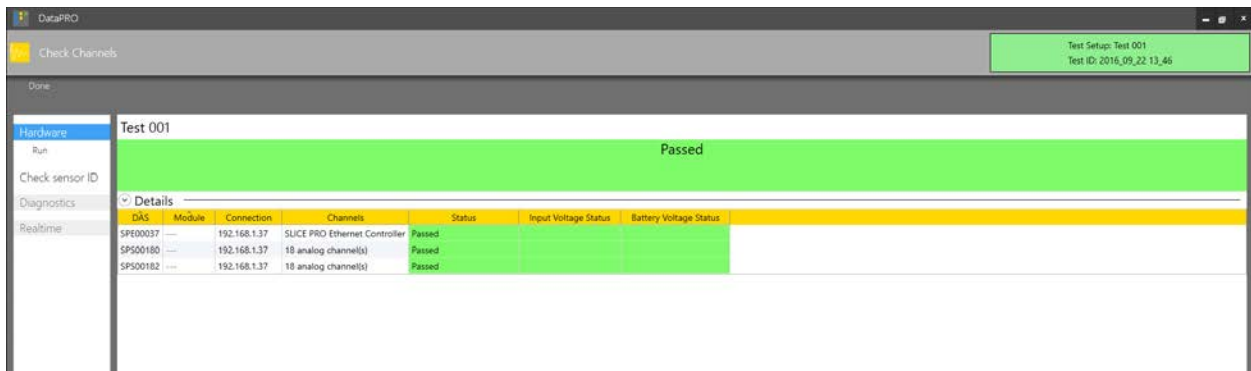


Diagnostics

Check Channels



A Hardware

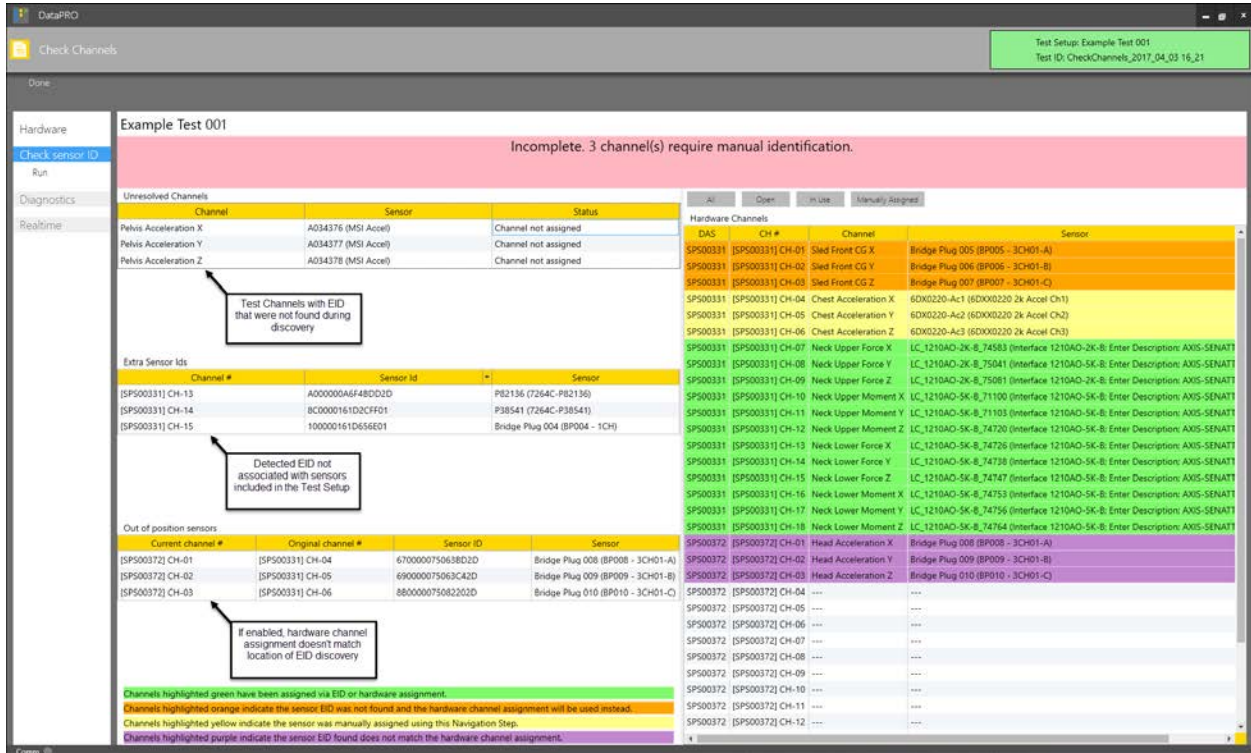


The screenshot shows the DataPRO software interface. At the top right, a green box displays "Test Setup: Test 001" and "Test ID: 2016_09_22_13_46". Below this, a large green bar indicates "Test 001 Passed". A table below shows the details of the hardware check:

DAS	Module	Connection	Channels	Status	Input Voltage Status	Battery Voltage Status
SPED0037	---	192.168.1.37	SUICE PRO Ethernet Controller	Passed		
SP500180	---	192.168.1.37	18 analog channel(s)	Passed		
SP500182	---	192.168.1.37	18 analog channel(s)	Passed		

1 Confirms connected hardware matches hardware selected in current Test Setup

B Check Sensor ID



Test Setup: Example Test 001
Test ID: CheckChannels_2017_04_03_16_21

Done

Hardware

Check sensor ID

Run

Diagnostics

Realtime

Example Test 001

Incomplete. 3 channel(s) require manual identification.

Unresolved Channels

Channel	Sensor	Status
Pelvis Acceleration X	A034376 (MSI Accel)	Channel not assigned
Pelvis Acceleration Y	A034377 (MSI Accel)	Channel not assigned
Pelvis Acceleration Z	A034378 (MSI Accel)	Channel not assigned

Test Channels with EID that were not found during discovery

Extra Sensor IDs

Channel #	Sensor ID	Sensor
[SP50031] CH-13	A000000A6F48CD2D	P82136 (7264C-P82136)
[SP50031] CH-14	8C0000161D2CFF01	P38541 (7264C-P38541)
[SP50031] CH-15	100000161D656E01	Bridge Plug 004 (BP004 - 1CH)

Detected EID not associated with sensors included in the Test Setup

Out of position sensors

Current channel #	Original channel #	Sensor ID	Sensor
[SP500372] CH-01	[SP50031] CH-04	6700000750638D2D	Bridge Plug 008 (BP008 - 3CH01-A)
[SP500372] CH-02	[SP50031] CH-05	690000075063C42D	Bridge Plug 009 (BP009 - 3CH01-B)
[SP500372] CH-03	[SP50031] CH-06	880000075082202D	Bridge Plug 010 (BP010 - 3CH01-C)

If enabled, hardware channel assignment doesn't match location of EID discovery

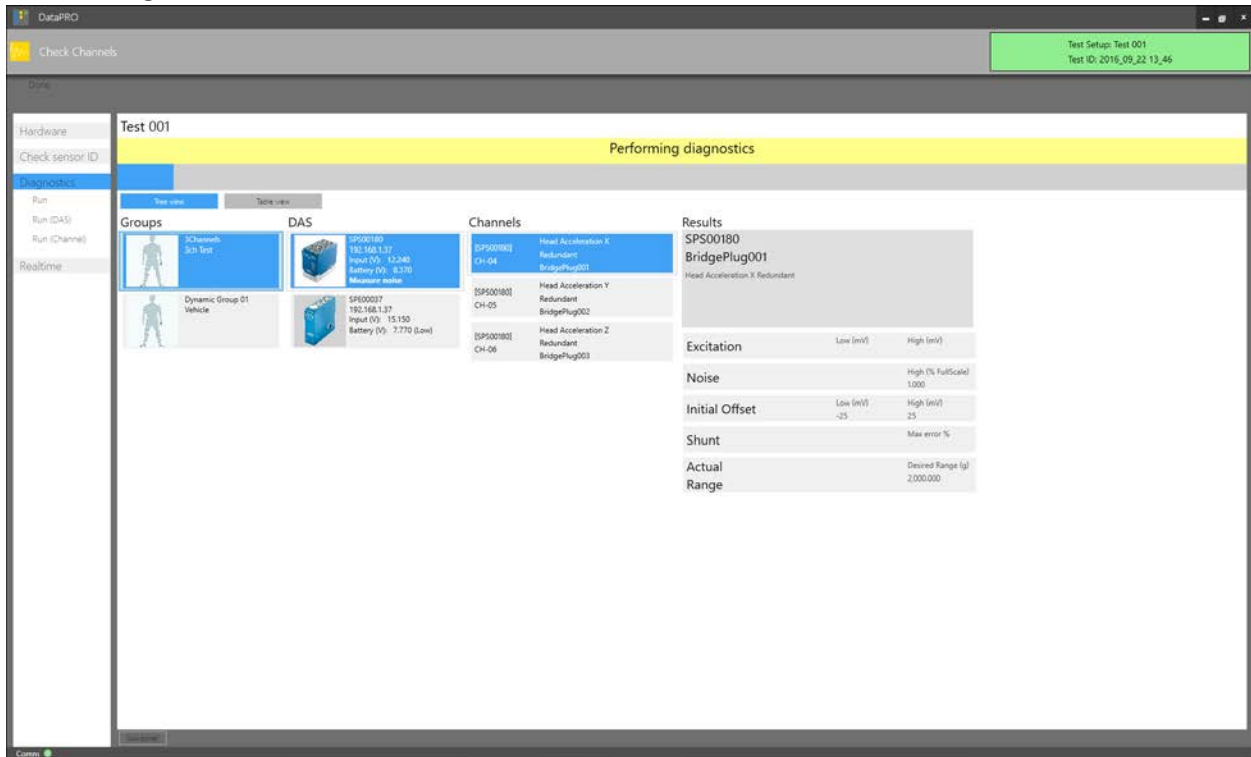
Channels highlighted green have been assigned via EID or hardware assignment.
Channels highlighted orange indicate the sensor EID was not found and the hardware channel assignment will be used instead.
Channels highlighted yellow indicate the sensor was manually assigned using this Navigation Step.
Channels highlighted purple indicate the sensor EID found does not match the hardware channel assignment.

Hardware Channels

DAS	CH #	Channel	Sensor
[SP50031]	[SP50031] CH-01	Sted Front CG X	Bridge Plug 005 (BP005 - 3CH01-A)
[SP50031]	[SP50031] CH-02	Sted Front CG Y	Bridge Plug 006 (BP006 - 3CH01-B)
[SP50031]	[SP50031] CH-03	Sted Front CG Z	Bridge Plug 007 (BP007 - 3CH01-C)
[SP50031]	[SP50031] CH-04	Chest Acceleration X	60X0220-Ac1 (60X00220 2k Accel Ch1)
[SP50031]	[SP50031] CH-05	Chest Acceleration Y	60X0220-Ac2 (60X00220 2k Accel Ch2)
[SP50031]	[SP50031] CH-06	Chest Acceleration Z	60X0220-Ac3 (60X00220 2k Accel Ch3)
[SP50031]	[SP50031] CH-07	Neck Upper Force X	LC_1210AO-2K-8_74583 (Interface 1210AO-2K-8; Enter Description: AXIS-SENATT)
[SP50031]	[SP50031] CH-08	Neck Upper Force Y	LC_1210AO-2K-8_75041 (Interface 1210AO-2K-8; Enter Description: AXIS-SENATT)
[SP50031]	[SP50031] CH-09	Neck Upper Force Z	LC_1210AO-2K-8_75081 (Interface 1210AO-2K-8; Enter Description: AXIS-SENATT)
[SP50031]	[SP50031] CH-10	Neck Upper Moment X	LC_1210AO-5K-8_71100 (Interface 1210AO-5K-8; Enter Description: AXIS-SENATT)
[SP50031]	[SP50031] CH-11	Neck Upper Moment Y	LC_1210AO-5K-8_71103 (Interface 1210AO-5K-8; Enter Description: AXIS-SENATT)
[SP50031]	[SP50031] CH-12	Neck Upper Moment Z	LC_1210AO-5K-8_74720 (Interface 1210AO-5K-8; Enter Description: AXIS-SENATT)
[SP50031]	[SP50031] CH-13	Neck Lower Force X	LC_1210AO-5K-8_74726 (Interface 1210AO-5K-8; Enter Description: AXIS-SENATT)
[SP50031]	[SP50031] CH-14	Neck Lower Force Y	LC_1210AO-5K-8_74738 (Interface 1210AO-5K-8; Enter Description: AXIS-SENATT)
[SP50031]	[SP50031] CH-15	Neck Lower Force Z	LC_1210AO-5K-8_74747 (Interface 1210AO-5K-8; Enter Description: AXIS-SENATT)
[SP50031]	[SP50031] CH-16	Neck Lower Moment X	LC_1210AO-5K-8_74753 (Interface 1210AO-5K-8; Enter Description: AXIS-SENATT)
[SP50031]	[SP50031] CH-17	Neck Lower Moment Y	LC_1210AO-5K-8_74756 (Interface 1210AO-5K-8; Enter Description: AXIS-SENATT)
[SP50031]	[SP50031] CH-18	Neck Lower Moment Z	LC_1210AO-5K-8_74764 (Interface 1210AO-5K-8; Enter Description: AXIS-SENATT)
[SP500372]	[SP500372] CH-01	Head Acceleration X	Bridge Plug 008 (BP008 - 3CH01-A)
[SP500372]	[SP500372] CH-02	Head Acceleration Y	Bridge Plug 009 (BP009 - 3CH01-B)
[SP500372]	[SP500372] CH-03	Head Acceleration Z	Bridge Plug 010 (BP010 - 3CH01-C)
[SP500372]	[SP500372] CH-04	---	---
[SP500372]	[SP500372] CH-05	---	---
[SP500372]	[SP500372] CH-06	---	---
[SP500372]	[SP500372] CH-07	---	---
[SP500372]	[SP500372] CH-08	---	---
[SP500372]	[SP500372] CH-09	---	---
[SP500372]	[SP500372] CH-10	---	---
[SP500372]	[SP500372] CH-11	---	---
[SP500372]	[SP500372] CH-12	---	---

- 2 Confirms that connected sensor IDs match sensors assigned to current Test Setup, and that all sensors have an assigned or discovered hardware channel
 - a Unresolved channels are channels that need hardware assignment because
 - i The EID in the Sensor Database was not found during discovery
 - ii They have no EID and were not assigned a hardware channel in Group/Test Setup
 - b Extra Sensor IDs are EIDs/sensors that were found during discovery that are not associated with sensors in the Test Setup.
 - c Out of Position Sensors are EIDs/sensors that were detected in a different hardware channel than they were assigned to in the Test Setup.

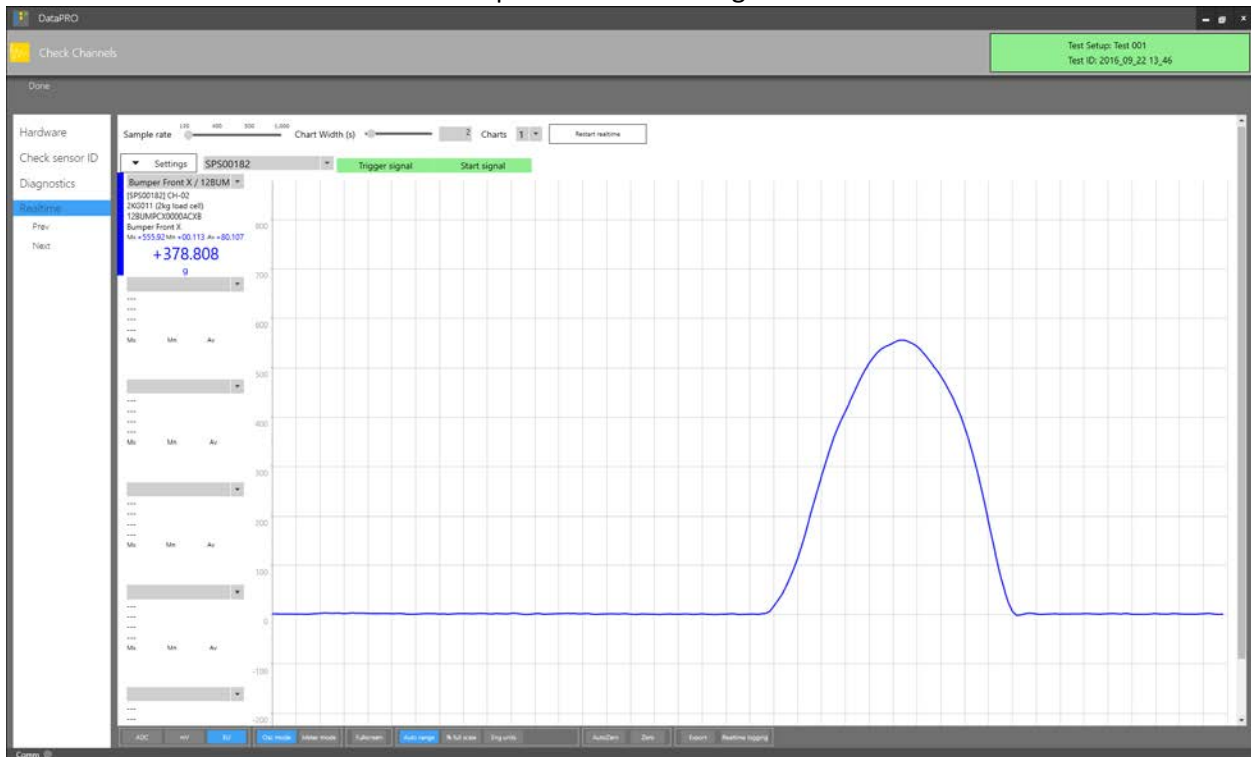
C Diagnostics



The screenshot shows the 'Check Channels' diagnostic interface. It includes a sidebar with navigation options like 'Hardware', 'Diagnostics', and 'Realtime'. The main area is divided into several sections:

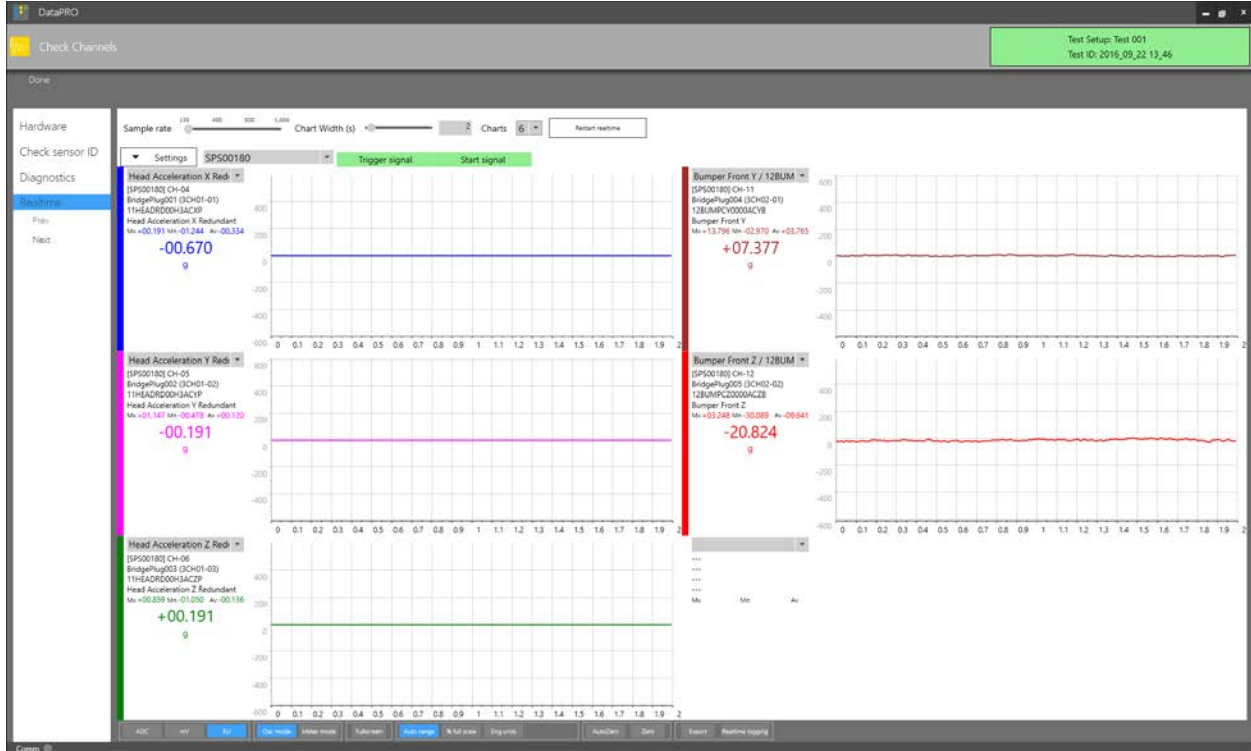
- Groups:** Shows 'Channels: 3ch Test' and 'Dynamic Group 01 Vehicle'.
- DAS:** Lists sensor details for SPS00180 (Input V: 12.246, Battery V: 8.270) and SPS00037 (Input V: 15.150, Battery V: 7.770 (Low)).
- Channels:** Lists 'Head Acceleration X Redundant BridgePlug001', 'Head Acceleration Y Redundant BridgePlug002', and 'Head Acceleration Z Redundant BridgePlug003'.
- Results:** Shows 'SPS00180 BridgePlug001' with 'Head Acceleration X Redundant'.
- Excitation:** A table with columns for 'Low (mV)' and 'High (mV)'.
- Noise:** A table with columns for 'High (% FullScale)' and '1.000'.
- Initial Offset:** A table with columns for 'Low (mV)' (-25) and 'High (mV)' (25).
- Shunt:** A table with a column for 'Max error %'.
- Actual Range:** A table with columns for 'Desired Range (g)' and '2,000.000'.

- 1 Confirms and tests sensor settings
 - a Choose to Run all DAS, Run one DAS, or Run one Channel
- 2 Realtime
 - a Allows for realtime manipulation and viewing of each sensor



The screenshot shows the 'Realtime' diagnostic interface. It features a large waveform graph showing a single pulse. The peak of the pulse is labeled with a value of **+378.808 g**. The graph has a grid and various control elements like 'Sample rate', 'Chart Width (s)', and 'Charts'.

- a Use Settings options to choose to display 1, 3, or 6 charts, change sample rate and chart width

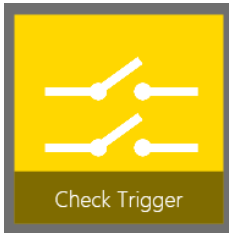


- b Configure display using buttons along the bottom of view window
- c Confirm start/event signal function

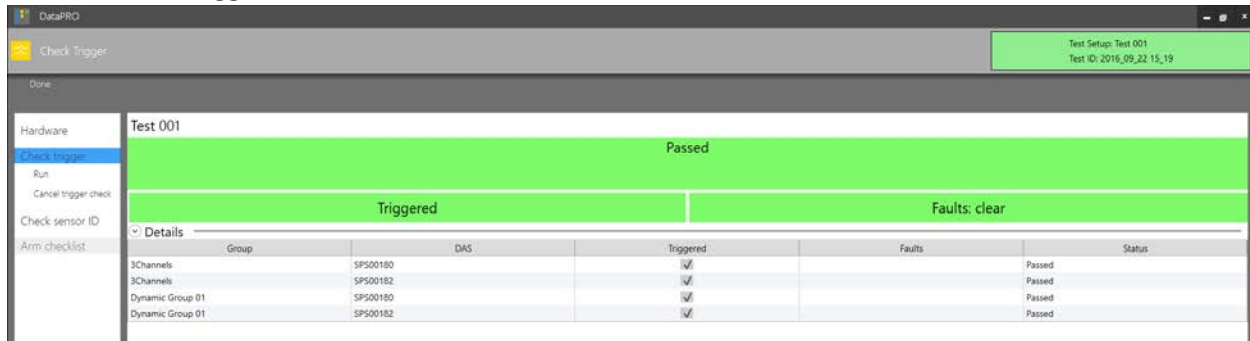
NOTE: DataPRO can only display multiple channels from the same DAS.

- 2 Click Done to exit to Home Screen

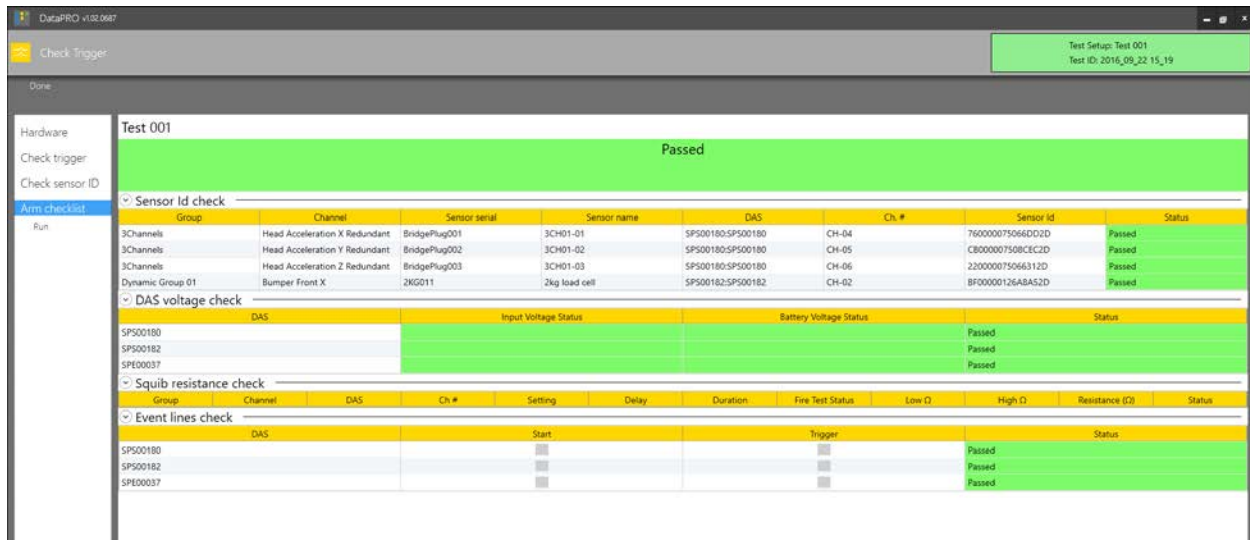
Check Trigger



- A Hardware
 - 1 Confirms connected hardware matches hardware assigned to active Test Setup
- B Check Trigger

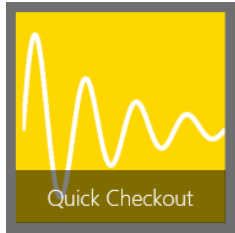


- 1 Initializes system and confirms hardware receives Start Record (if applicable) and Trigger/Event signals
- C Check Sensor ID
 - 1 Confirms that connected sensor IDs match sensors assigned to active Test Setup
- D Arm Checklist

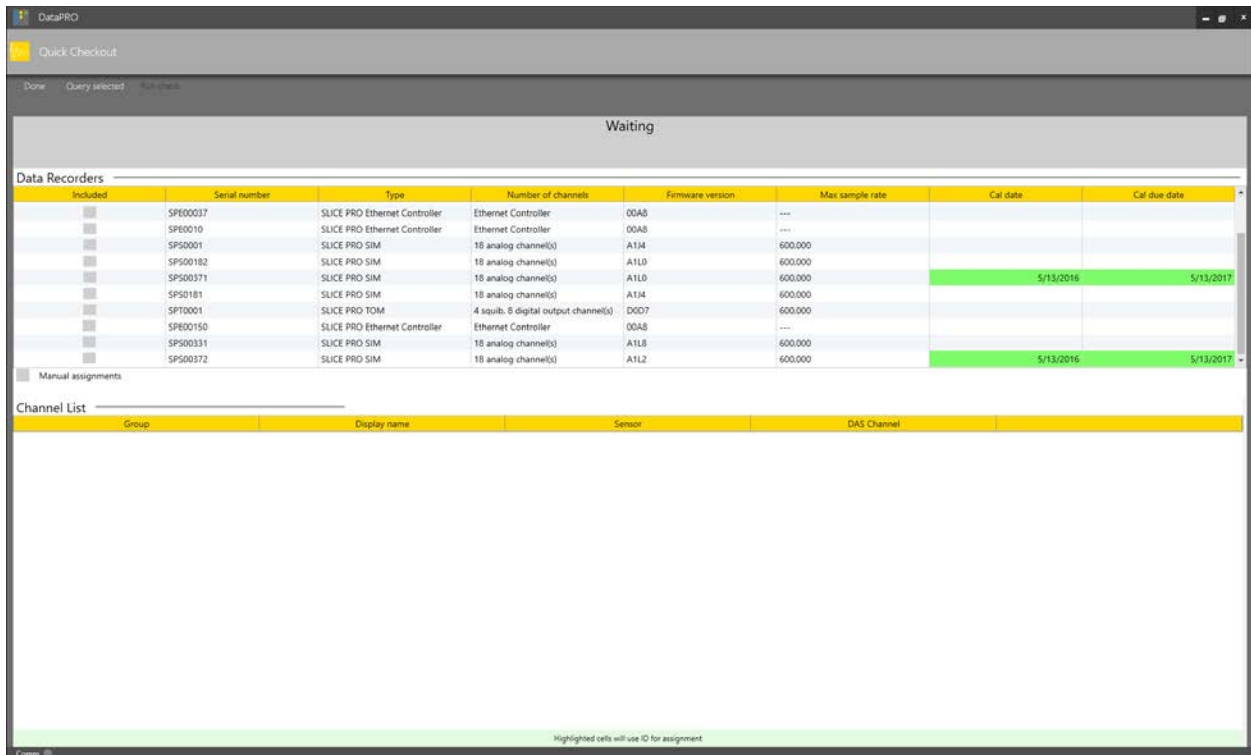


- 1 Allows for checking squib resistance of TOM channels

Quick Checkout



A Click Quick Checkout tile



Waiting

Included	Serial number	Type	Number of channels	Firmware version	Max sample rate	Cal date	Cal due date
<input type="checkbox"/>	SP60037	SLICE PRO Ethernet Controller	Ethernet Controller	00A8	---		
<input type="checkbox"/>	SP60010	SLICE PRO Ethernet Controller	Ethernet Controller	00A8	---		
<input type="checkbox"/>	SP50001	SLICE PRO SIM	18 analog channel(s)	A1J4	600.000		
<input type="checkbox"/>	SP500182	SLICE PRO SIM	18 analog channel(s)	A1L0	600.000		
<input type="checkbox"/>	SP500371	SLICE PRO SIM	18 analog channel(s)	A1L0	600.000	5/13/2016	5/13/2017
<input type="checkbox"/>	SP50181	SLICE PRO SIM	18 analog channel(s)	A1J4	600.000		
<input type="checkbox"/>	SPT0001	SLICE PRO TOM	4 squib, 8 digital output channel(s)	D0D7	600.000		
<input type="checkbox"/>	SP600150	SLICE PRO Ethernet Controller	Ethernet Controller	00A8	---		
<input type="checkbox"/>	SP500331	SLICE PRO SIM	18 analog channel(s)	A1L8	600.000		
<input type="checkbox"/>	SP500372	SLICE PRO SIM	18 analog channel(s)	A1L2	600.000	5/13/2016	5/13/2017

Manual assignments

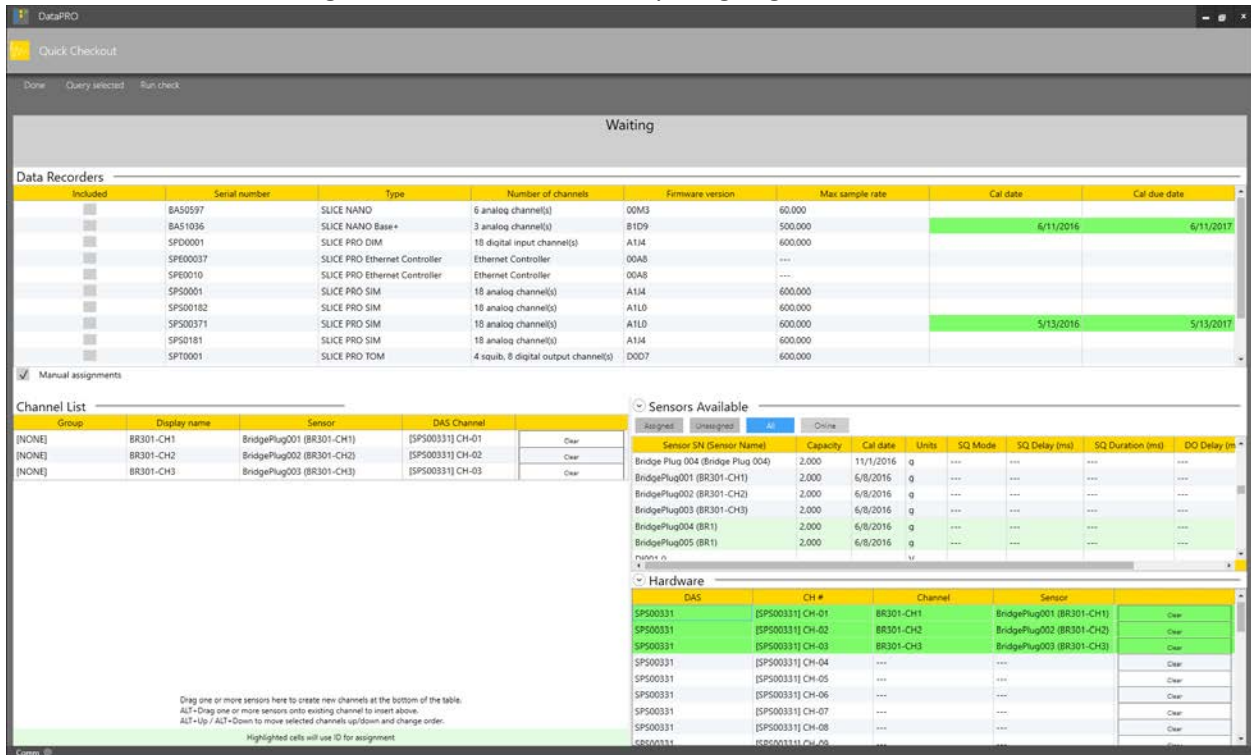
Group	Display name	Sensor	DAS Channel

Highlighted cells will use ID for assignment

B Select desired hardware from Data Recorders table

C Select Query selected to scan for connected sensors with EID

D Select Manual assignments to enable manually assigning sensors to be included in checkout



Data Recorders

Included	Serial number	Type	Number of channels	Firmware version	Max sample rate	Cal date	Cal due date
<input type="checkbox"/>	BAS0597	SLICE NANO	6 analog channel(s)	00M3	60.000		
<input type="checkbox"/>	BAS1036	SLICE NANO Base+	3 analog channel(s)	B1D9	500.000	6/11/2016	6/11/2017
<input type="checkbox"/>	SP00001	SLICE PRO DIM	18 digital input channel(s)	A114	600.000		
<input type="checkbox"/>	SP00037	SLICE PRO Ethernet Controller	Ethernet Controller	00A8	---		
<input type="checkbox"/>	SP00110	SLICE PRO Ethernet Controller	Ethernet Controller	00A8	---		
<input type="checkbox"/>	SP50001	SLICE PRO SIM	18 analog channel(s)	A114	600.000		
<input type="checkbox"/>	SP50182	SLICE PRO SIM	18 analog channel(s)	A110	600.000		
<input type="checkbox"/>	SP500371	SLICE PRO SIM	18 analog channel(s)	A110	600.000	5/13/2016	5/13/2017
<input type="checkbox"/>	SP50181	SLICE PRO SIM	18 analog channel(s)	A114	600.000		
<input type="checkbox"/>	SPT0001	SLICE PRO TOM	4 squib, 8 digital output channel(s)	DD07	600.000		

Manual assignments

Channel List

Group	Display name	Sensor	DAS Channel	
[NONE]	BR301-CH1	BridgePlug001 (BR301-CH1)	[SP500331] CH-01	Clear
[NONE]	BR301-CH2	BridgePlug002 (BR301-CH2)	[SP500331] CH-02	Clear
[NONE]	BR301-CH3	BridgePlug003 (BR301-CH3)	[SP500331] CH-03	Clear

Sensors Available

Sensor SN (Sensor Name)	Capacity	Cal date	Units	SQ Mode	SQ Delay (ms)	SQ Duration (ms)	DO Delay (ms)
Bridge Plug 004 (Bridge Plug 004)	2,000	11/1/2016	g	---	---	---	---
BridgePlug001 (BR301-CH1)	2,000	6/8/2016	g	---	---	---	---
BridgePlug002 (BR301-CH2)	2,000	6/8/2016	g	---	---	---	---
BridgePlug003 (BR301-CH3)	2,000	6/8/2016	g	---	---	---	---
BridgePlug004 (BR1)	2,000	6/8/2016	g	---	---	---	---
BridgePlug005 (BR1)	2,000	6/8/2016	g	---	---	---	---

Hardware

DAS	CH #	Channel	Sensor	
SP500331	[SP500331] CH-01	BR301-CH1	BridgePlug001 (BR301-CH1)	Clear
SP500331	[SP500331] CH-02	BR301-CH2	BridgePlug002 (BR301-CH2)	Clear
SP500331	[SP500331] CH-03	BR301-CH3	BridgePlug003 (BR301-CH3)	Clear
SP500331	[SP500331] CH-04	---	---	Clear
SP500331	[SP500331] CH-05	---	---	Clear
SP500331	[SP500331] CH-06	---	---	Clear
SP500331	[SP500331] CH-07	---	---	Clear
SP500331	[SP500331] CH-08	---	---	Clear
SP500331	[SP500331] CH-09	---	---	Clear

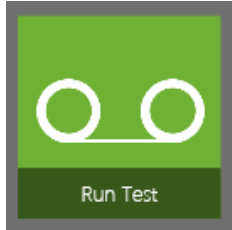
Drag one or more sensors here to create new channels at the bottom of the table.
 ALT+ Drag one or more sensors onto existing channel to insert above.
 ALT+Up / ALT+Down to move selected channels up/down and change order.
 Highlighted cells will use ID for assignment.

E Select Run check when sensor assignments/discovery is complete

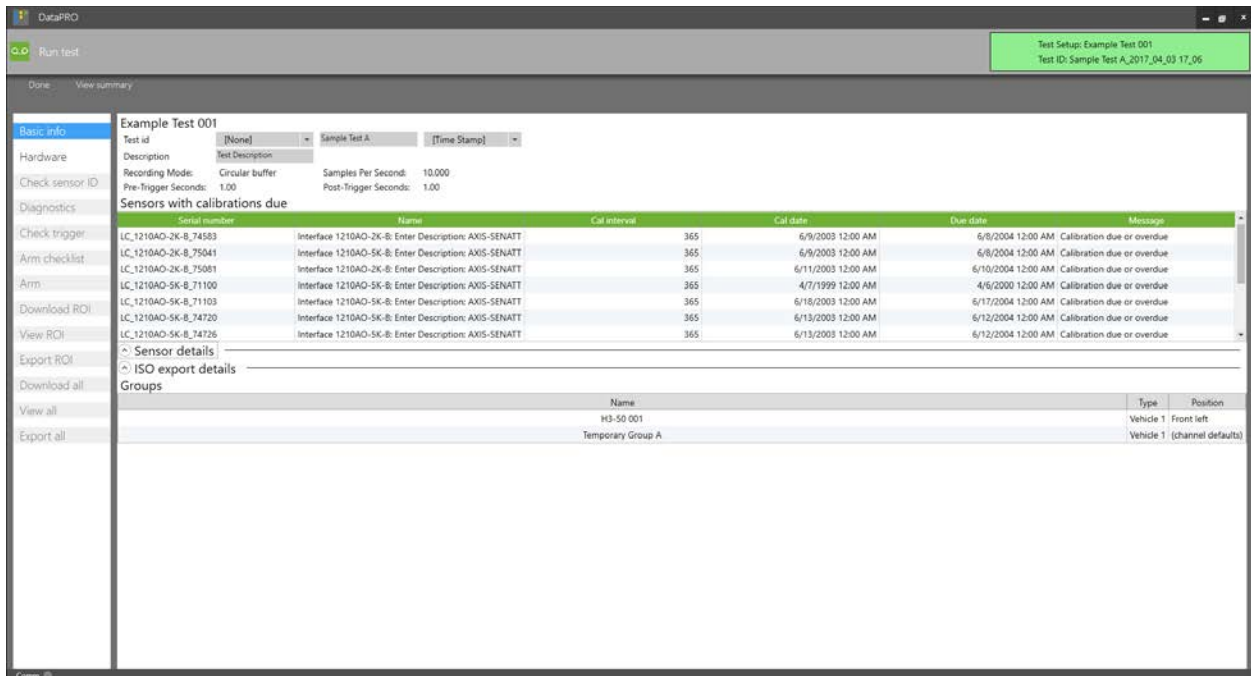
- 1 Selecting Run check will begin steps included in Check Channels tile (Page 41)

Record

Run Test

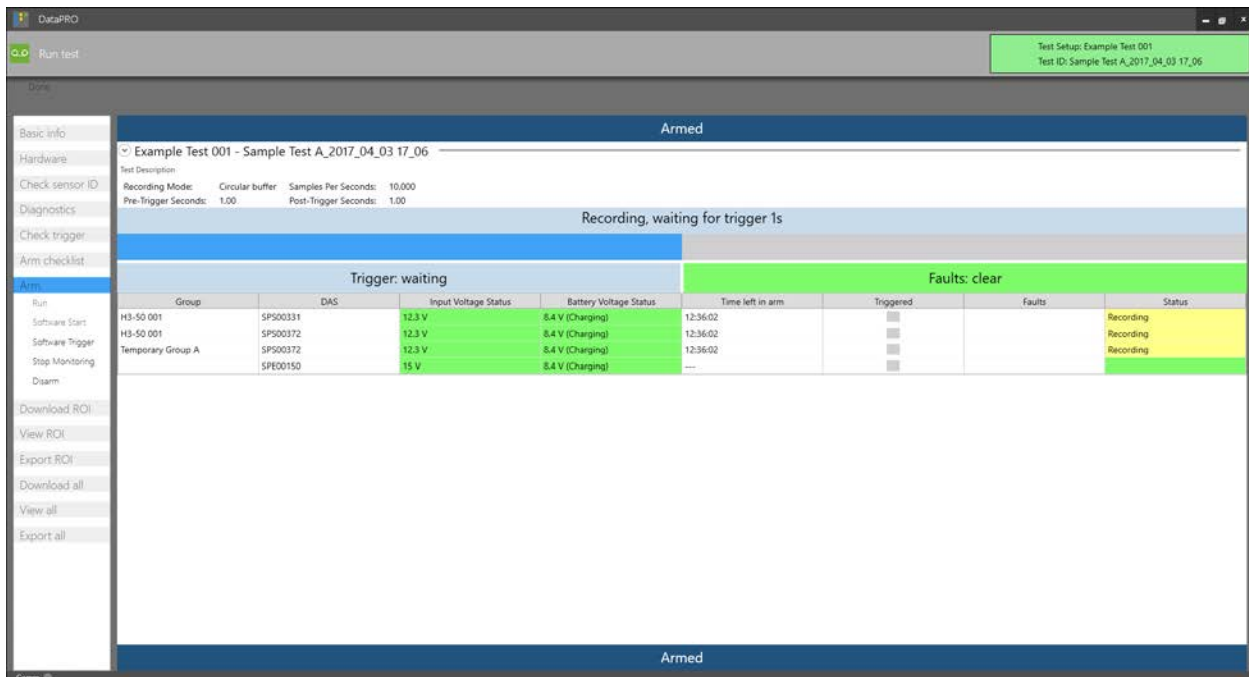


- A Choose appropriate Test setup
- B Click Run Test Tile
- 1 Basic Info



- a Enter Test ID
 - i Default Test ID is Date and Timestamp
- b Select Test ID prefix and suffix (optional)
- c Enter Test Description (optional)
- d Click arrows to expand/collapse Sensor Details and ISO export details
- e Click next navstep when complete
- 2 Hardware
 - a Confirms connected hardware matches hardware assigned to active Test Setup
 - b Click next navstep when complete

- 3 Check Sensor ID
 - a Confirms that connected sensor IDs match sensors assigned to active Test Setup
 - b Click next navstep when complete
- 4 Diagnostics
 - a Confirms sensor settings (excitation, noise, offset, shunt)
 - b Click next navstep when complete
- 5 Realtime
 - a Allows for realtime manipulation and confirming output of each sensor
 - b Click next navstep when complete
- 6 Trigger Check
 - a Initializes system and confirms hardware receives Start Record and Trigger signals
 - b Click next navstep when complete
- 7 Arm Checklist (If included in test setup)
 - a Confirms Sensor ID, DAS Voltage/Battery, Squib Resistance, Start/Event lines
 - b Click next navstep when complete
- 8 Arm

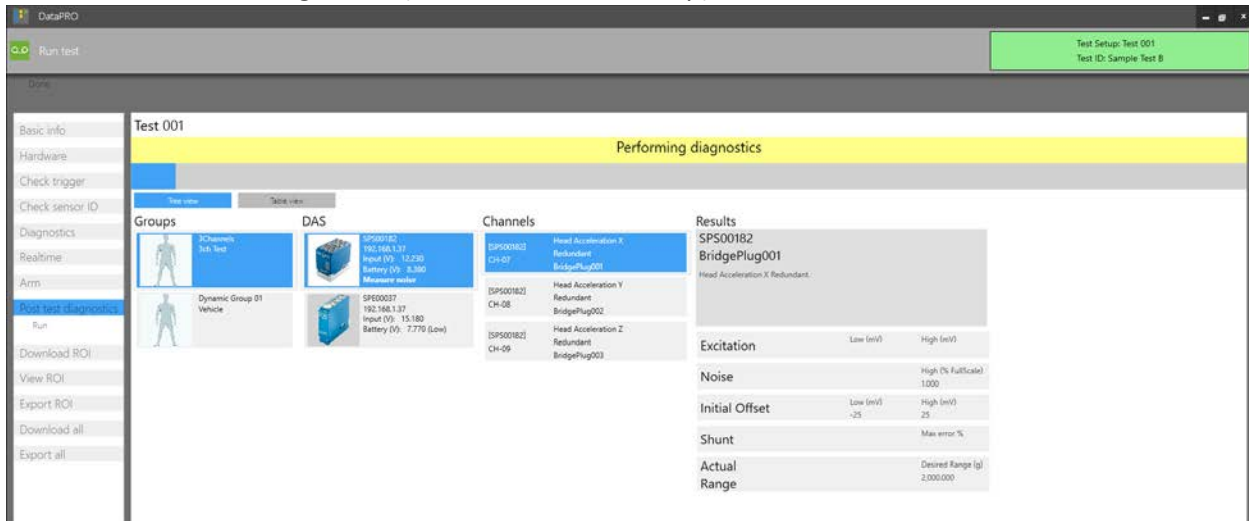


The screenshot shows the DataPRO software interface. At the top, there is a 'Run test' button and a status bar indicating 'Test Setup: Example Test 001' and 'Test ID: Sample Test A_2017_04_03_17_06'. The main area is titled 'Armed' and displays 'Recording, waiting for trigger 1s'. Below this, there is a table with columns for 'Group', 'DAS', 'Input Voltage Status', 'Battery Voltage Status', 'Time left in arm', 'Triggered', 'Faults', and 'Status'. The table contains data for three sensor groups: H3-50 001, H3-50 001, and Temporary Group A. The 'Status' column shows 'Recording' for the first two groups and 'Recording' for the third group. The 'Armed' status is also displayed at the bottom of the interface.

Group	DAS	Input Voltage Status	Battery Voltage Status	Time left in arm	Triggered	Faults	Status
H3-50 001	SP500331	12.3 V	8.4 V (Charging)	12:36:02	<input type="checkbox"/>		Recording
H3-50 001	SP500372	12.3 V	8.4 V (Charging)	12:36:02	<input type="checkbox"/>		Recording
Temporary Group A	SP500372	12.3 V	8.4 V (Charging)	12:36:02	<input type="checkbox"/>		Recording
	SP600150	15 V	8.4 V (Charging)	---	<input type="checkbox"/>		

- a Arms system for test
 - i Click Software Start to send a Start signal and start recording (Recorder Mode only)
 - ii Click Software Trigger to send an Event signal and trigger the system
 - iii Click Stop Monitoring to disconnect computer and remain Armed
 - iv Click Disarm to abort test
- b Click next navstep when recording is complete

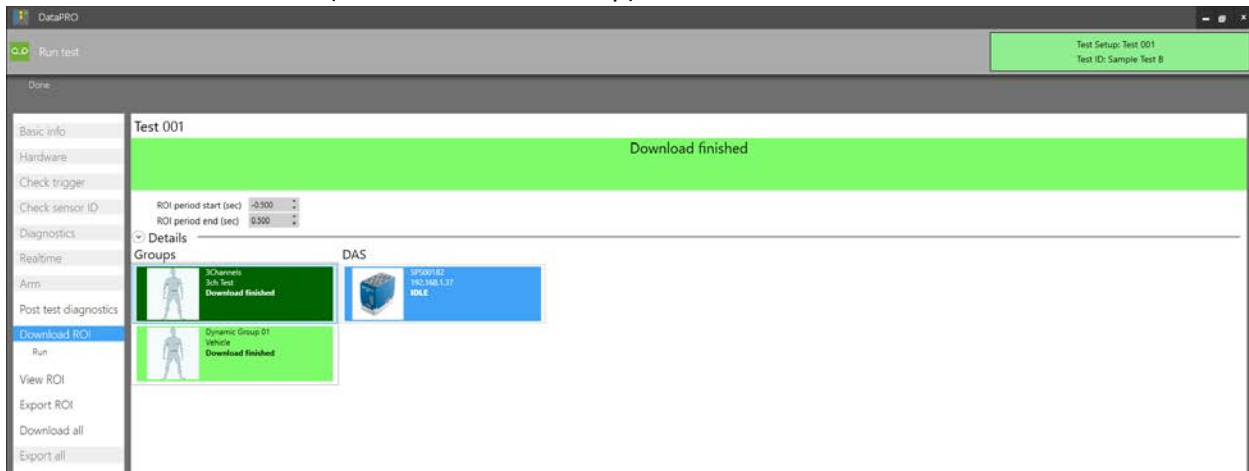
9 Post test diagnostics (If included in Test Setup)



Excitation	Low (mV)	High (mV)
Noise		High (% FullScale) 1.000
Initial Offset	Low (mV)	High (mV)
Shunt	-25	25
		Max error %
Actual Range		Desired Range (g) 2.000:0.000

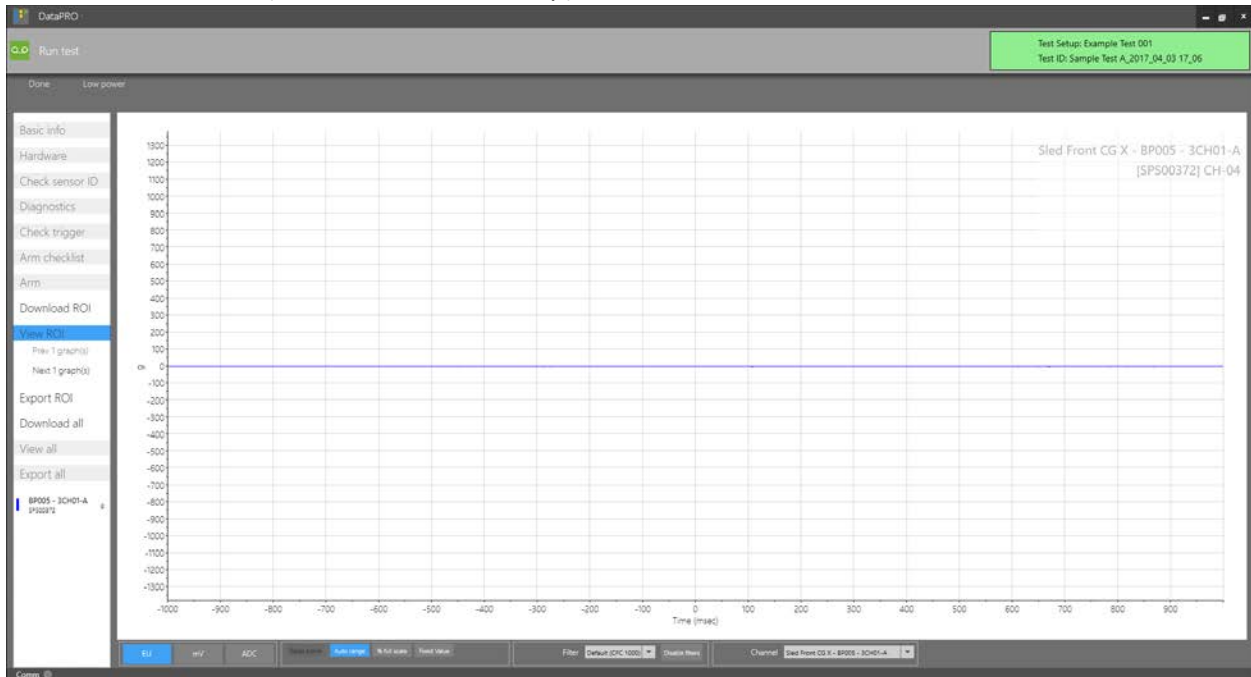
- a Confirms sensor settings (excitation, noise, offset, shunt)
- b Click next navstep when complete

10 Download ROI (If included in Test Setup)



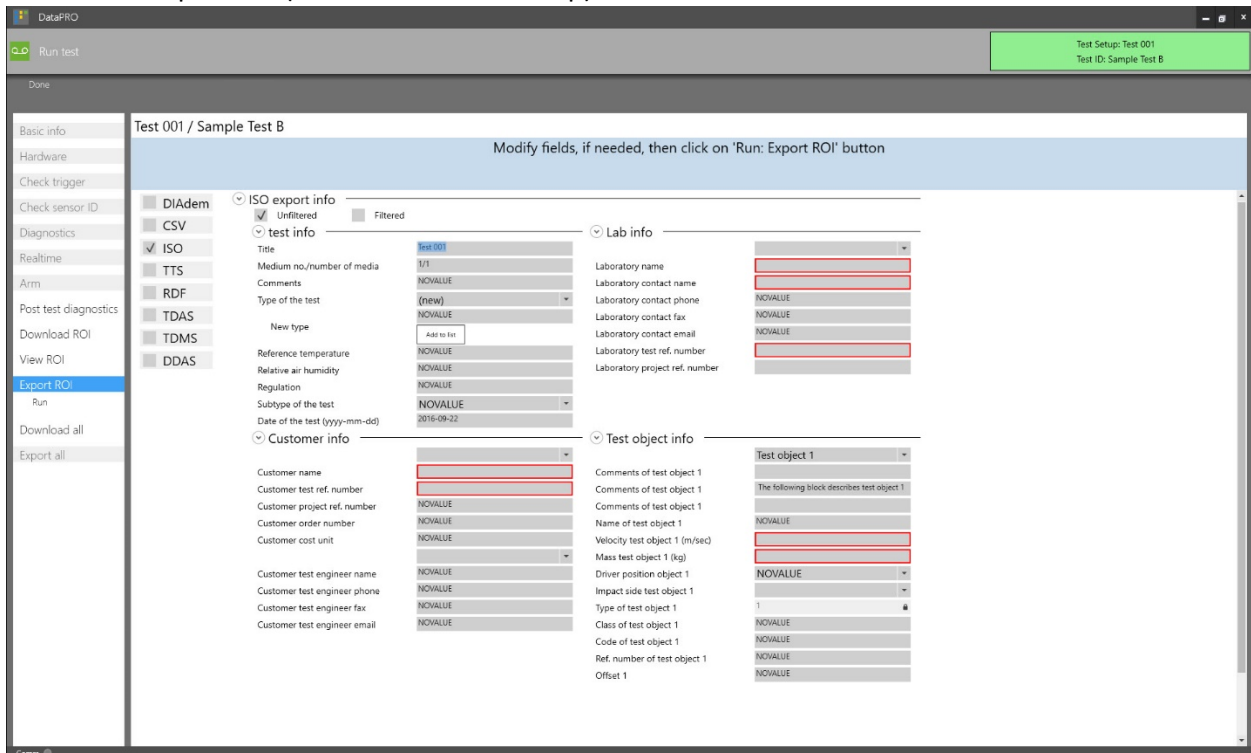
- a Enter/confirm ROI
- b Click next navstep or Done when finished

11 View ROI (If included in Test Setup)



- Configure display using buttons along the bottom of the view window
- Click next navstep or Done when finished

12 Export ROI (If included in Test Setup)

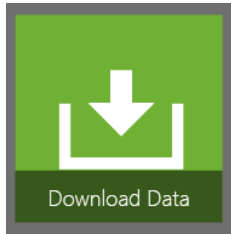


- Choose to add additional export formats
- Enter information as needed
- Click Run to export test data
- Click next navstep or Done when finished

- 13 Download All (If included in Test Setup)
 - a Downloads entire dataset
 - b Click next navstep or Done when finished
- 14 View All (If included in Test Setup)
 - a Configure display using buttons along the bottom of the view window
 - b Click next navstep or Done when finished
- 15 Export All (If included in Test Setup)
 - a Enter information as needed
 - b Click Run to export test data
- 16 Click next navstep or Done when finished
 - a Upload Data (If included in Test Setup)
 - b Uploads test data to location specified in Test Setup
- 17 Click Done when finished

Download Data

Allows user to select a Test Setup and connect DAS to (re)download data.

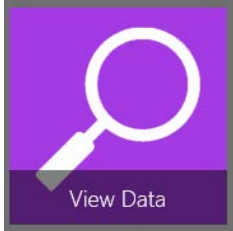


- A Select correct Test Setup for hardware/data set
- B Basic Info
 - 1 Enter Test ID and (optional) Description
 - 2 Click next navstep when finished
- C Hardware
 - 1 Confirms connected hardware matches hardware assigned to active Test Setup
 - 2 Click next navstep when finished
- D Download ROI
 - 1 Downloads Region Of Interest as specified in Test Setup
 - 2 Click next navstep when finished
- E View ROI
 - 1 Displays the Region Of Interest for each channel and any additional graphs created in Test Setup
 - 2 Configure display using buttons along the bottom of the view window
 - 3 Click next navstep when finished
- F Export ROI
 - 1 Enter information and confirm export settings are correct
 - 2 Click Run: Export ROI to export test data
 - 3 Click next navstep when finished
- G Download All
 - 1 Downloads the full data set as specified in Test Setup
 - 2 Click next navstep when finished
- H View All
 - 1 Displays the data set for each channel and any additional graphs created in Test Setup
 - 2 Configure display using buttons along the bottom of the view window
 - 3 Click next navstep when finished
- I Export All
 - 1 Enter information and confirm export settings are correct
 - 2 Click Run: Export All to export test data
 - 3 Click next navstep when finished
- J Upload Data
 - 1 Uploads test data to location specified in Test Setup
- K Click Done when finished

Review

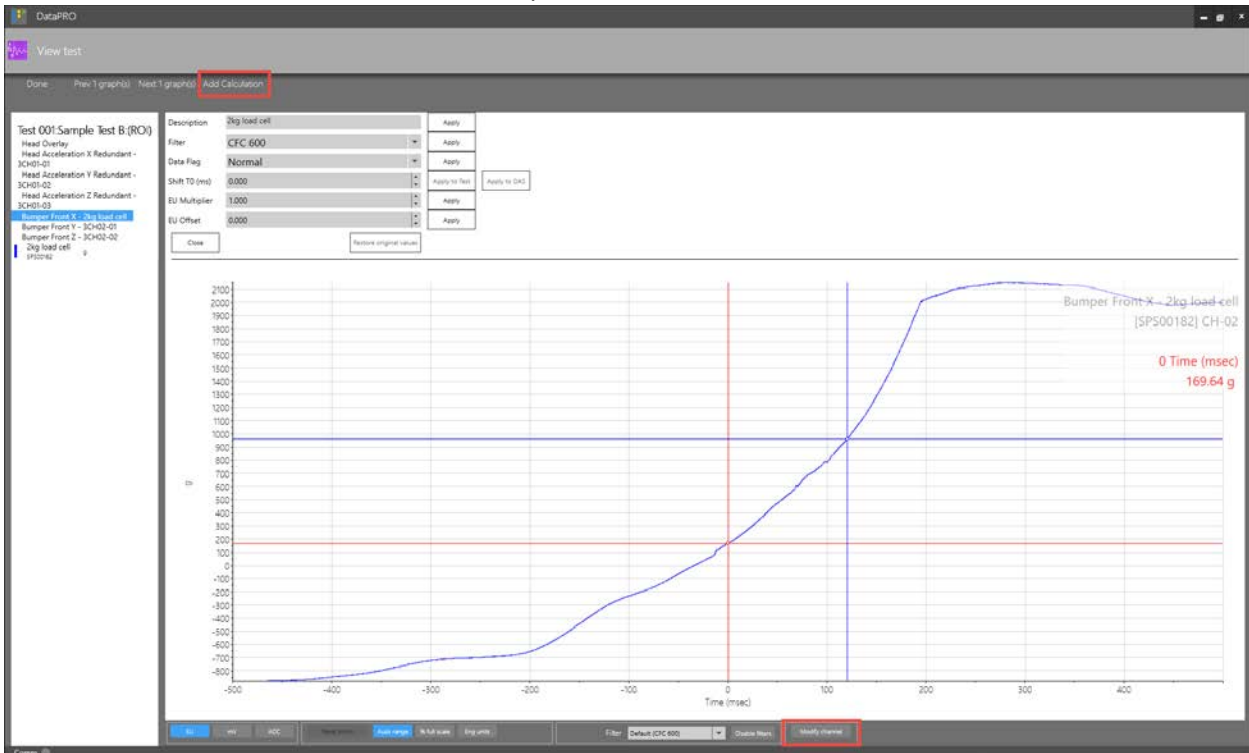
View Data

Review downloaded data and perform simple channel modifications



A Select test to review/modify

- 1 Double click on desired data set or select/highlight and click View
- 2 Click Browse to display a dataset saved in a different location
- 3 Click Add Calculation to add simple calculation as additional channel



A Click Modify Channel to open manipulation options

- 1 Modify channels as needed
 - a Data point indicated by red crosshairs is displayed on right side of graph (red text)
 - b Move blue cross hairs and double click to reset red crosshairs

B Click Done when finished, all changes will be saved

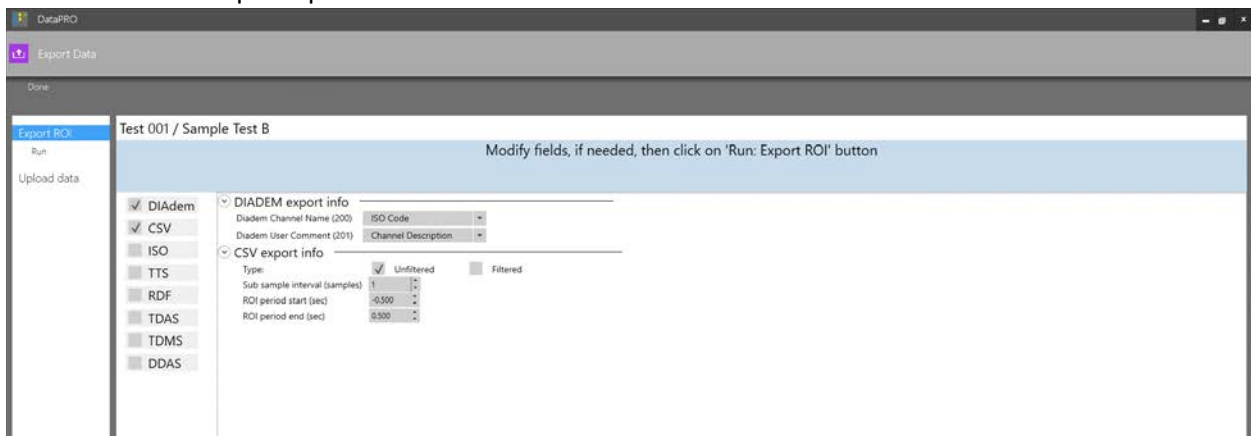
NOTE: Default location for Test Data is C:\DTS\DataPRO\Data\TestSetupName\TestID. See DataPRO File Structure, page 7 for more information regarding where to find test data.

Export Data

Re-export downloaded data



- A Select test to export
 - 1 Double click on desired data set or select/highlight and click Export
 - 2 Click Browse to export a dataset saved in a different location
- B Confirm export options



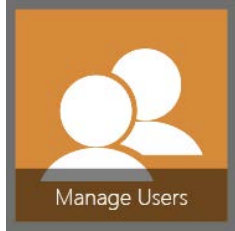
- C Click Run
- D Click next navstep to Upload data if desired
- E Click Done when finished

NOTE: Default location for Test Data is C:\DTS\DataPRO\Data\TestSetupName\TestID. See DataPRO File Structure, page 7 for more information regarding where to find test data.

Administrative

Manage Users

Add/edit user profiles and access settings.



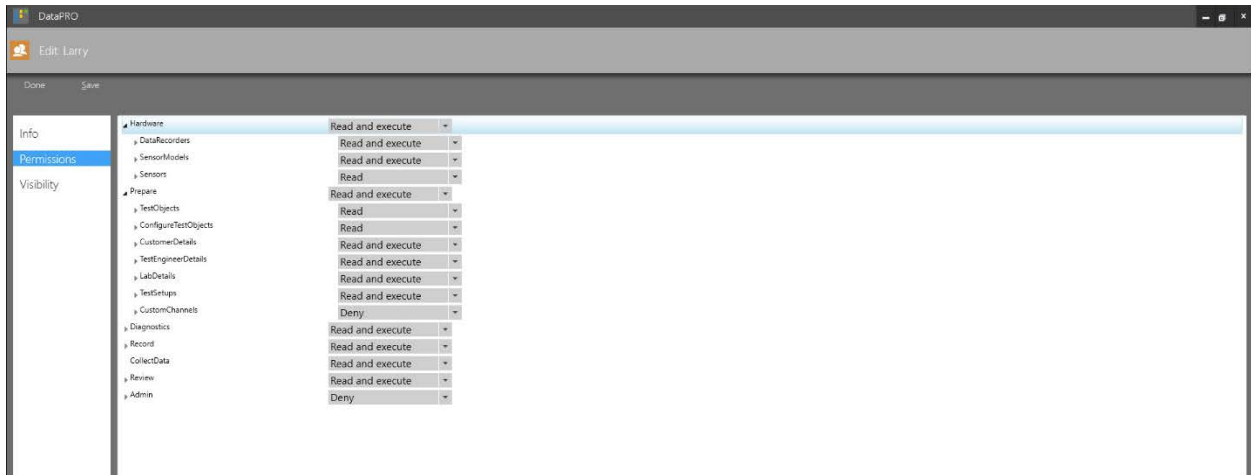
A Select existing User profile to edit or Add new user

1 Info



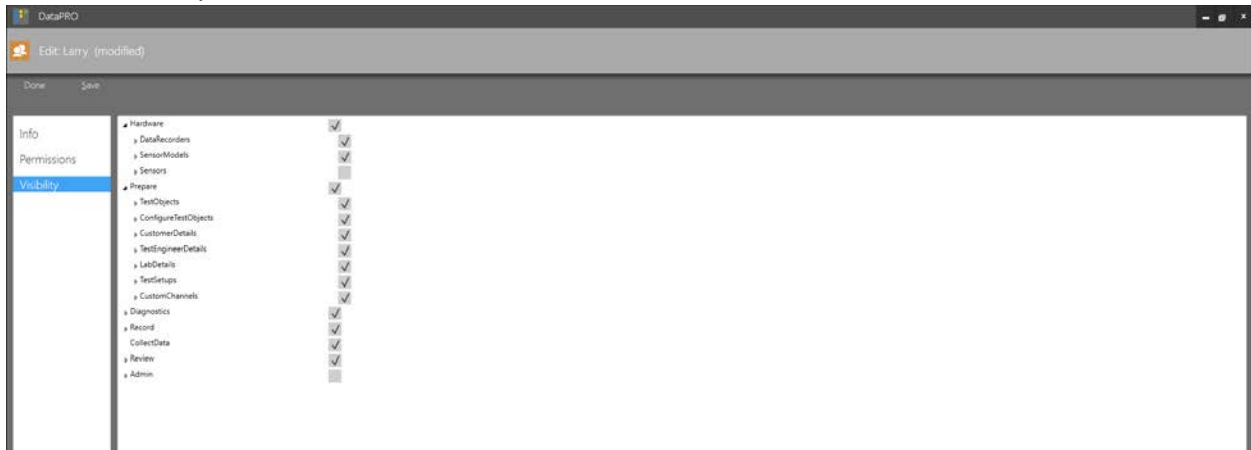
a Admin can change password for each User profile

B Permissions



2 Set permission level for each Tile/NavStep

C Visibility



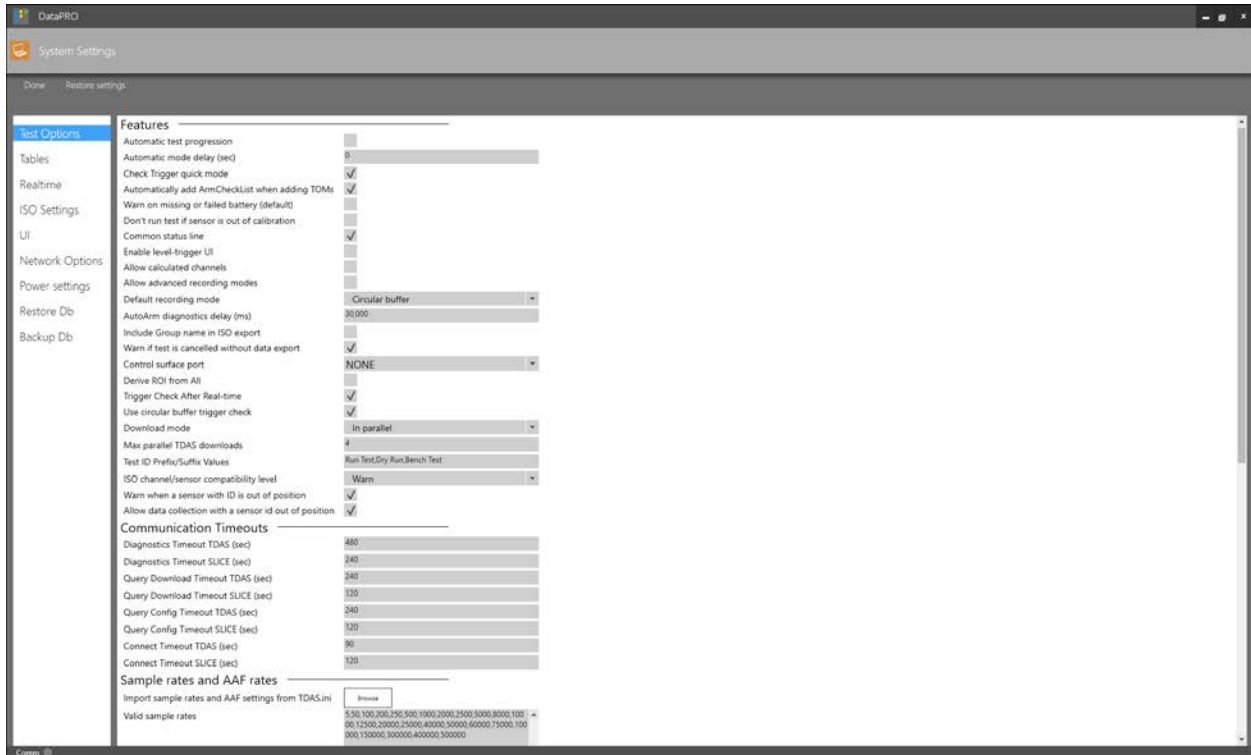
3 Display or hide each Tile/NavStep

System Settings

Configure default settings for new objects, timeouts, power thresholds, etc.



A Test Options



The screenshot shows the 'System Settings' window in DataPRO. The 'Test Options' section is selected in the left sidebar. The main area displays various settings for test progression, recording, and communication. The 'Features' section includes options like 'Automatic test progression', 'Check Trigger quick mode', and 'Warn on missing or failed battery'. The 'Communication Timeouts' section lists various timeout values for TDAS and SLICE. The 'Sample rates and AAF rates' section includes a list of valid sample rates.

Section	Setting	Value
Features	Automatic test progression	<input type="checkbox"/>
	Automatic mode delay (sec)	0
	Check Trigger quick mode	<input checked="" type="checkbox"/>
	Automatically add ArmCheckList when adding TOMs	<input checked="" type="checkbox"/>
	Warn on missing or failed battery (default)	<input type="checkbox"/>
	Don't run test if sensor is out of calibration	<input type="checkbox"/>
	Common status line	<input checked="" type="checkbox"/>
	Enable level-trigger UI	<input type="checkbox"/>
	Allow calculated channels	<input type="checkbox"/>
	Allow advanced recording modes	<input type="checkbox"/>
	Default recording mode	Circular buffer
	AutoArm diagnostics delay (ms)	30,000
	Include Group name in ISO export	<input type="checkbox"/>
	Warn if test is cancelled without data export	<input checked="" type="checkbox"/>
	Control surface port	NONE
Communication Timeouts	Derive ROI from All	<input type="checkbox"/>
	Trigger Check After Real-time	<input checked="" type="checkbox"/>
	Use circular buffer trigger check	<input checked="" type="checkbox"/>
	Download mode	In parallel
	Max parallel TDAS downloads	4
	Test ID Prefix/Suffix Values	Run,Test,Dry,Run,Bench,Test
	ISO channel/sensor compatibility level	Warn
	Warn when a sensor with ID is out of position	<input checked="" type="checkbox"/>
	Allow data collection with a sensor id out of position	<input checked="" type="checkbox"/>
	Diagnostics Timeout TDAS (sec)	480
Diagnostics Timeout SLICE (sec)	240	
Query Download Timeout TDAS (sec)	240	
Query Download Timeout SLICE (sec)	120	
Query Config Timeout TDAS (sec)	240	
Query Config Timeout SLICE (sec)	120	
Connect Timeout TDAS (sec)	90	
Connect Timeout SLICE (sec)	120	
Sample rates and AAF rates	Import sample rates and AAF settings from TDAS.ini	<input type="button" value="Browse"/>
	Valid sample rates	5,50,100,200,250,500,1000,2000,2500,5000,8000,10000,12500,20000,25000,40000,50000,60000,75000,100000,150000,300000,400000,500000

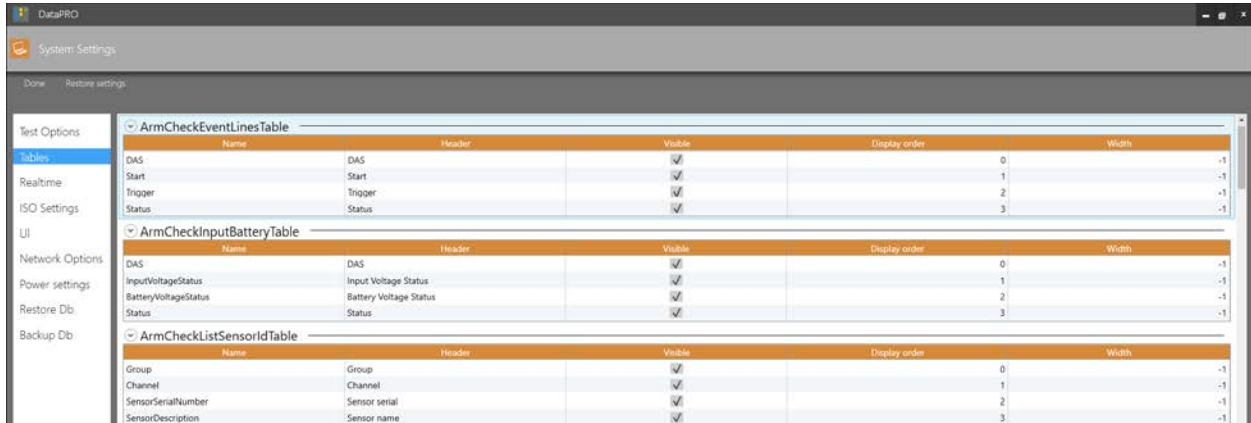
1 Features

Automatic test progression	During data collection, test will automatically progress to next step between Check Hardware and Arm Checklist/Arm if selected
Automatic mode delay (sec)	Specify delay between completed step and next step
Check Trigger quick mode	If selected, hardware will be dummy armed for trigger check. NOTE: Level triggers can only be verified if this is not selected.
Automatically add ArmCheckList when adding TOMs	If selected, Arm Checklist will automatically be added to any Test Setup that contains TOMs
Warn on missing or failed battery (default)	Indicates the default option (yes/no) for Warn on missing or failed battery for new Test Setups
Don't run test if sensor is out of calibration	If selected, tests that contain sensors that are past due for calibration will be marked incomplete
Common status line	If selected, new Test Setups will be defaulted to have a Common status line. (Setting can be modified in Test Setup.)
Enable level-trigger UI	If selected, sensors can be set up as level trigger in Test Setup.
Allow calculated channels	If selected, allows adding sum and average of multiple channels to Realtime. NOTE: Channels included in each calculation must be in the same DAS.
Allow advanced recording modes	If selected, Hybrid Recorder mode will be available.
Default recording mode	Sets default recording mode for new Test Setups. (Setting can be modified in Test Setup.)
AutoArm diagnostics delay (ms)	Time to wait after rebooting before running diagnostics when configured to AutoArm.
Include Group name in ISO export	If selected, Group name will be included in ISO export.
Warn if test is cancelled without data export	If selected, DataPRO will warn user if Run Test is exited before data download. NOTE: If <i>not</i> selected, user will be warned of undownloaded data present on hardware during next diagnostic check.
Control surface port	Customer specific setting.
Derive ROI from All	If selected, the ROI dataset will be automatically generated from the full dataset. If TO is modified in View Data, the ROI dataset will be automatically regenerated.
Trigger check after Real-time	If selected, Trigger Check step will happen after Realtime. If not selected, Trigger Check step will happen before Check Sensor ID.
Use circular buffer trigger check	If selected, Trigger Check will only test the Event line, regardless of recording mode chosen.
Download Mode	Refers to how the data will be downloaded post-test. Options are In parallel, In parallel by DAS type, or Sequentially. TDAS systems should select either In parallel by DAS type or Sequentially.
Max parallel TDAS downloads	Maximum number of TDAS systems to download data at the same time.

Test ID Prefix/Suffix Values	Modify or enter additional options to choose as Test ID prefix or suffix.
ISO channel/sensor compatibility level	Options are Don't warn, Warn, Don't allow. Don't warn will not indicate and will allow sensors of any physical dimension to be assigned to any ISO channel. Warn will indicate physical dimension conflicts, but will allow them. Don't allow will require corresponding physical dimension settings in both sensors and ISO channel.
Warn when a sensor with ID is out of position	If selected, DataPRO will indicate if a sensor's EID is detected on a different hardware channel than what was assigned in Test Setup.
Allow data collection with a sensor ID out of position	If selected, an out of position sensor EID will not be considered a fault and DataPRO will be able to continue to data collection.

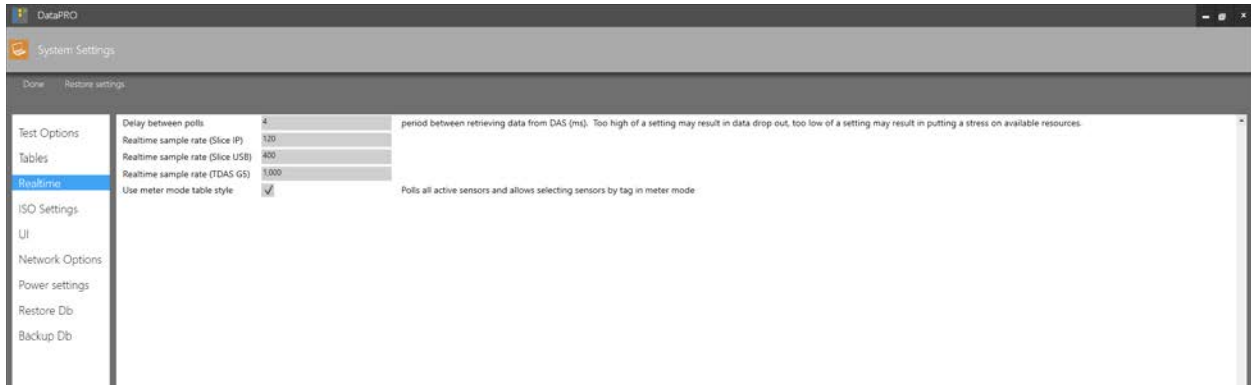
- 2 Communication timeouts
 - b Maximum time to wait for communication response from hardware
- 3 Sample rates and AAF rates
 - a Default valid sampling rates and AAF filtering rates
 - b Import existing values from TDAS.ini
 - c Add additional sampling/filter rates for any hardware type
- 4 DAS Calibration Intervals (Days)
 - a Specify calibration interval for each hardware type.
 - b Specify 'Calibration Due' warning period
- 5 Data Export Options
 - a Specify DIAdem export settings
 - b Export INI file is customer specific; specifies where INI file (compatible with TDAS Control) will be saved
- 6 Test Setups Import Options
 - a Clear database before TSF import
 - i If selected, importing TSF will erase sensors and objects currently in database
- 7 Hardware Setting Defaults
 - a Default digital output mode
 - i Can be modified in Test Setup

B Tables



- 1 Configure column display and order for tables

C Realtime



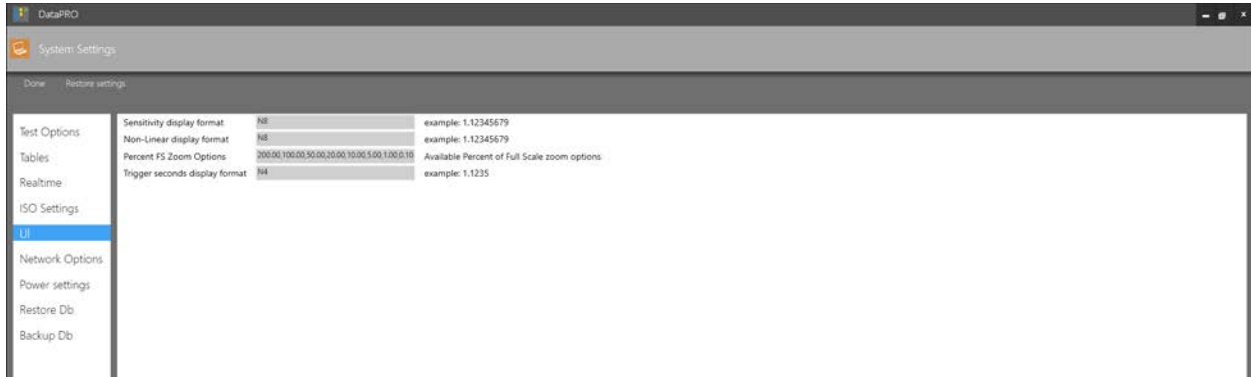
- 1 View/change default Realtime settings
 - a Realtime sample rate can also be changed in Realtime view window
- 2 If selected, "Use meter mode table style" will display a moving average for channels in meter mode

D ISO Settings



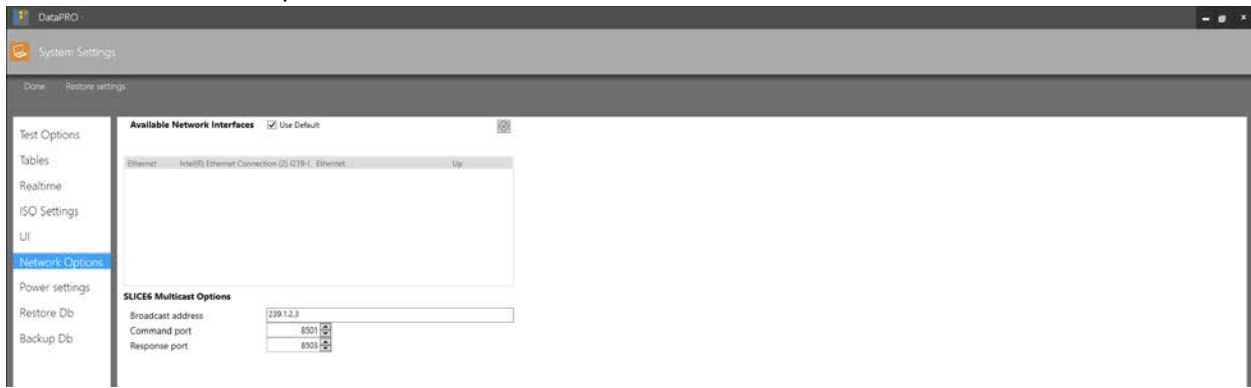
- 3 Use DataPRO in ISO Mode or Non-ISO Mode

E UI



a Configure display of numeric values

4 Network Options



a Configure network for DAS communication

5 Power settings



a Configure battery/input power thresholds for warning and fault scenarios

6 Restore Db



- a Import and restore to a DataPRO dbxml database.
NOTE: This will overwrite any existing data currently in the database.

7 Backup Db



- a Create a dbxml backup file of the entire DataPRO database.