Portable Data Collection

TRIO DP-2 / TRIO DP-2H

TRIO Standard
8" Controller

TRIO Premium
10" Controller

HAZLOC Upgrade for TRIO

Symphony Industrial AI offers a North American Standards Class 1, Division 2, Group A, B, C, D TRIO for use in hazardous locations. Upgrade any TRIO Standard or TRIO Premium package to HAZLOC. This upgrade package will upgrade the TRIO DP-2 to a DP-2H. Note that the TRIO Triaxial sensor and both 8" and 10" TRIO Controllers are HAZLOC approved as standard. See the DP-2H's technical specifications for more information.

The DP-2H has two M-12 input connectors. One sensor input for the four, simultaneous data acquisition channels and one dedicated tachometer input. A handheld laser tachometer as an optional accessory from Symphony Industrial AI for your TRIO. This tachometer can be used with the TRIO only in non-hazardous locations. HAZLOC-rated tachometers may be available from other suppliers.

The sensor input on the DP-2H is classified as a non-incendive circuit connection for Class 1, Division 2 hazardous conditions. The tachometer input is classified as a non-sparking circuit connection for Class 1, Division 2 hazardous locations. While in hazardous locations, this connection MUST be plugged and securely locked using the provided lockout mechanism.

WARNING! EXPLOSION HAZARD –
ENSURE TACH INPUT SOCKET IS NOT EXPOSED TO HAZARDOUS ENVIRONMENTS. SOCKET MUST BE ENGAGED BY EITHER A SAFETY PLUG OR HAZLOC-RATED TACHOMETER WHILE IN HAZARDOUS ENVIRONMENTS. LOCKOUT MECHANISM MUST BE INSTALLED WHILE IN HAZARDOUS ENVIRONMENTS.
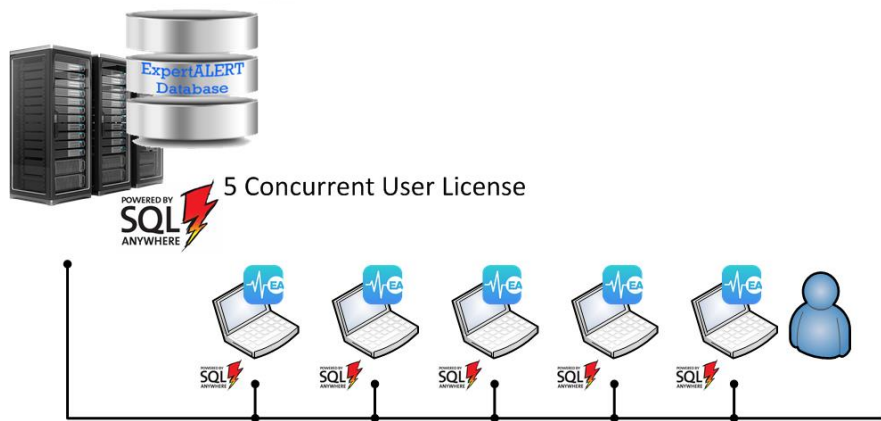
SYBASE® SQL Anywhere

Sybase SQL Anywhere 12.0, Single-user License
Single user Sybase SQL Anywhere software required for desktop license of ExpertALERT, StandardALERT, of ViewALERT. Also required for TRIO Data Collectors.

Notes: Required software for any ALERT application. Single user license does not allow simultaneous access to database. Multiple user license available.

Concurrent Users:

5 Concurrent User License

When a customer requires more than one individual user to connect to the same database, a "Concurrent User" license is required. A user is defined as any unique person accessing the same license of ALERT. A concurrent user license is applied to a served-database on the user's network.

Concurrent Users Required Items:

Sybase SQL Anywhere 12.0, Server Installation
Server Installation of Sybase SQL Anywhere software required for Windows Server Installation as required for concurrent user configurations. Concurrent user license seat required, priced per user, sold separately.
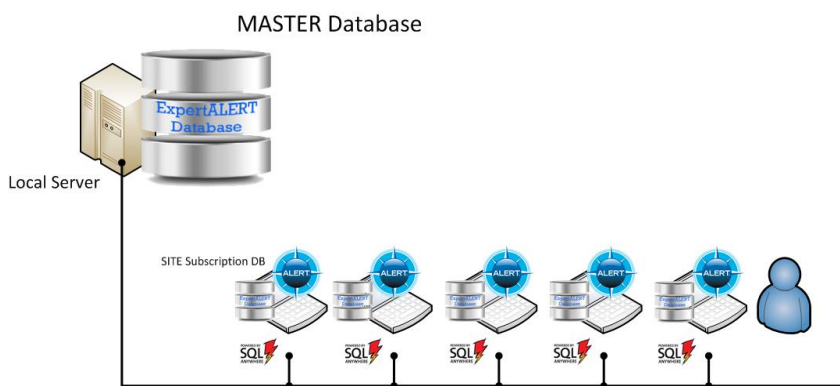
Sybase SQL Anywhere 12.0, Multiple Concurrent-user License, per Seat
Concurrent user license required for network database connections. Priced per user seat. User defined as unique connection through ExpertALERT, StandardALERT, ViewALERT, or ALERT Online Engine.

Notes: Requires special trigger coding by Technical Support during product registration. A user must be connected to the network when using ExpertALERT or StandardALERT. If a user wants to be able to work disconnected from a network, they would need a replicating network system (see next section).

Important: ALERT is platform aware and will not allow a user to try to bypass this installation by running the application from a network. Each user must be accounted for during product registration.

Replicating Network:

MASTER Database

ExpertALERT Database

Local Server

SITE Subscription DB

A replicating network creates a "Master Database" to manage synchronized "Site Subscriptions". Managed by a local IT department, a master database is installed in an accessible location, generally a server and the replication software is used to extract plant-specific, mirror-image databases for use on computers, laptops and TRIO. This is a common setup for TRIO communication.

Important: Managing a replicating network requires significant local IT involvement. Symphony Industrial AI will assist customer during the initial setup but replication assistant is not included with the ALERT software service and support agreement. Additional charges may apply.

Replicating Network Required Item:

Sybase 12 Database Replication Software, per Database
Sybase replication allows the synchronization of database from master database to multiple site subscriptions. Software required for each database. Additional support fees may be required.

Notes: Compatible with ALERT 3.60 and newer. A license is required for each database that is replicating, including master. A Sybase Server Installation license is not required unless user is additionally setting up a concurrent user setup.

Standard Accessories

TRIO Standard Triaxial Accelerometer with 6' Integrated Cable

HAZLOC Rated Triaxial sensor. 100mV/g, +/-10% sensitivity, +/- 50g measurement range. Ceramic-Shear sensing element. Stainless Steel hermetically sealed housing. 6-foot soft-coiled cable. M-12 connector. Annual calibration required. Includes NIST traceable calibration certificate, 5/32 ball driver, sensor belt holster, and one year warranty.

TRIO Handheld Laser Tachometer

Handheld laser tachometer utilizing a laser sensor. Features visible laser beam, teach mode that doesn't require reflective tape, manual adjustment for fine tuning and 8-segment bar graph display. Includes belt pouch and mounting clamp. Connects to TRIO Data Processor M-12R TACH connection. THIS ITEM IS NOT HAZLOC RATED. Can be used with the DP-2H only in non-hazardous locations.

AC Motor Current Clamp Sensor

AC Motor Current Clamp Sensor is used for motor current signature analysis. Requires M-12 to BNC adapter cable. Requires (4 BNC) or (single BNC) to connect to TRIO. THIS ITEM IS NOT HAZLOC RATED. Can be used with the DP-2H only in non-hazardous locations.

Symphony Industrial AI uses triaxial sensors and collects data in simultaneously in all three channel-directions. To ensure proper orientation during data collection, Symphony Industrial AI strongly encourages the use of attachment pads over magnetic mounts. The attachment pads ensures both consistency in data collection and ease of use by technicians and operators.

There are three types of attachment pads available, a threaded pad that is adhered to the machine's test locations, requiring the ball driver tool to secure the sensor and a two-part quick connect pad/receptacle that requires a receptacle to be secured to the sensor, and a glue-pad for the Accel 310 wireless sensor.

| Quick Connect Pad/Receptacle | AKBR Mounting Pad | Accel 310 Glue-pad |

Steel Quick Connect Receptacle
A Quick Connect receptacle is screwed onto a vibration sensor to connect to the Quick Connect Pad. Quarter-turn quick-connection allows for simple, fast connection of sensor to location pad in the field without requiring tools. Requires item Quick Connect Pads on machine test locations.

Steel Quick Connect Pad,
mounting pads for connecting a vibration sensor to designated test locations on machinery. Quarter-turn quick-connection allows for fast connection of sensor to location pad without requiring tools. Recommended Loctite Glue for mounting. Requires item Quick Connect Receptacle to be installed on sensor.

Attachment Pad, AK-BR, Bronze, 10-32 thread, General Purpose
Attachment pads for mounting triaxial sensor with 10-32 threaded center screw to designated test locations on machinery. Recommended Loctite adhesive for installation.

Adhesive Kit, Loctite
Recommended adhesive for mounting attachment pads to machinery.
Two part: Loctite 7387 Activator and Loctite 330 Adhesive.

Attachment Pad Caps
Bags of red caps for protecting attachment pads in the field.

5/32 Inch Ball Driver
Replacement 5/32 ball driver for triaxial accelerometer mounting.

Universal Hard Transit case for TRIO data collectors.
Compartmentalized travel and shipping case for all TRIO data collectors. Includes removable insert to offer space for courier bag and gear. Ideal for shipping TRIO hardware to Symphony Industrial AI for calibration or repair.

4-point Harness for 8" TRIO Controller
Carry option for the 8" TRIO Controller that secures the tablet around the shoulders and waist.

4-point Harness for 10" TRIO Controller
Carry option for the 10" TRIO Controller that secures the tablet around the shoulders and waist.

TRIO® Software and Configuration Add-ons

Sybase 12 Database Replication Software, per Database
Sybase replication allows the synchronization of database from master database to multiple site subscriptions. Software required for each database. Additional support fees may be required.
Notes: Software license required for each database that is replicating, including master.

ALERT Multi-plane Balance Software for TRIO
This multi-plane / multi-speed balance software add-on to the TRIO data collector allows users to perform simple to complex balance work. Handheld tachometer required, sold separately

ALERT Multi-plane Balance KIT for TRIO
This multi-plane / multi-speed balance software for TRIO allows users to perform simple to complex balance work. Kit includes (ALERT Multi-plane Balance Software), (handheld tachometer, belt pouch, mounting clamp), plus balance scale, and transit case.
Notes: Balance Kit is economical option when deciding to add tachometer or Balance software to TRIO.

ALERT Real-time Analyzer (RTA) for TRIO
For full analytical capabilities of the TRIO, ALERT RTA allows full access to all four channels of data, advanced diagnostic capabilities, and export functionality for 3rd-party software.

ALERT Collector, Data Collection Acquisition Software
This embedded application software allows users to collector routine vibration data, process data, or advanced vibration analysis data.
Notes: Software must be embedded onto a TRIO Controller during the time of build or as part of an RMA.

Single-axis Accelerometer, 2 Pin top exit, General Purpose
Single Axis Accelerometer, general-purpose, 100mV/g, top exit (2 Pin).
Cable sold separately.

Notes: Requires 2-pin, general purpose cable. Symphony Industrial AI will source best-priced manufacturer and model.

M-12 to Single BNC Adapter Cable

The single-BNC Adapter Cable for TRIO Data Processors allows users to connect to remote boxes, permanent systems, single axis sensors, AC current clamps, and other accessories. 3' Soft cable, M-12 to single BNC.
1 female BNC coupler included.

M-12 to 2-pin MIL Cable

This cable directly connects a 2-pin MIL single channel sensor to a DP-2.

BNC to 2-pin MIL Adapter Connector

This adapter connects a 2-pin MIL single channel sensor to a BNC cable or connector.

M-12 to 4-BNC Adapter Cable

4-BNC Adapter Cable for TRIO Data Processors allows users to connect to remote boxes, permanent systems, single axis sensors, AC current clamps, and other accessories. Soft cable, 12" M-12 to connector block, 4-12" BNC cables from connector block. 1 female BNC coupler included.

M-12 to Triax plus BNC Adapter Cable

This adapter cable allows users to utilize the 4th channel of their TRIO Data Processor along with their triaxial sensor. 12" M-12 extension to connection block with triaxial M-12 plus 12" extension to 4th channel BNC connector.
1 female BNC coupler included.

Notes: Single channel connects to 4th channel only. ALERT software allows user to route single channel on channel 4 to channel 1 for routine collection.

M-12 Quick-Connect Adapter Cable, short

Triaxial accelerometer adapter cable adds a quick-disconnect for easy transition to other sensor or adapters without requiring the unscrewing of the sensor to the DP-2 unit. The short cable is 7.5 inches in length. Ideal for switching between triax and single channel sensors or other adapters.

M-12 Quick-Connect Adapter Cable, long
Triaxial accelerometer adapter cable adds a quick-disconnect for easy transition to other sensor or adapters without requiring the unscrewing of the sensor to the DP-2 unit. The long cable is 4.2 feet in length. Ideal for switching connecting to M-12 CB junction boxes.

M-12 to M-12 Sensor Extension Cable
This 13-foot extension cable is used to extend the reach of the M-12 sensor connection for remote and hard-to-reach locations. Soft cable, male M-12 on one end, female M-12 on other.

M-12R to M-12R Tachometer Extension Cable
This 13-foot extension cable is used to extend the reach of the M-12R tachometer connection for remote and hard-to-reach locations. Soft cable, male M-12R on one end, female M-12R on other.

M-12R to BNC Tachometer Adapter Cable
To adapt TRIO Data Processor M-12R Tachometer connection for legacy BNC-style tachometers. 20" soft cable. 1 female BNC coupler included.

BNC to BNC Extension Cable, 4 feet
BNC to BNC extension cable. 4' length. Can be used with BNC output connectors and tachometers. 1 female BNC coupler included.

Magnet Mounting Base, Rail-style, Two-Notch, 55 lbf
10-32 tapped hole for Triaxial sensor attachment. Features two notches to
accommodate rail magnet design. 1.5" diameter. 55 lbf.

Junction Boxes

CB-1, Remote Sensor Connection Station, M-12 connectors
For remote data collection using a portable data collector, this Connection Box (CB) has 1 M-12
connection locations that can be wired to remote, permanently installed sensors. Requires M-12
extension cable Must specify with or without pre-installed grips.

CB-2, Remote Sensor Connection Station, M-12 connectors
For remote data collection using a portable data collector, this Connection Box (CB) has 2 M-12
connection locations that can be wired to remote, permanently installed sensors. Requires M-12
extension cable. Must specify with or without pre-installed grips.

CB-4, Remote Sensor Connection Station, M-12 connectors
For remote data collection using a portable data collector, this Connection Box (CB) has 4 M-12
connection locations that can be wired to remote, permanently installed sensors. Requires M-12
extension cable. Must specify with or without pre-installed grips.

Notes: Unit does not have pre-drilled holes for connections.

Why use a junction box?
Junction boxes are utilized in hard to access test locations. The junction box is installed close to the
machine with permanently installed triaxial or single-axis sensor directly wired to the box. This solution
retains the lower cost of a walk-around system as opposed to an online system. Standard single M-12,
dual M-12, and quad M-12 boxes are listed. Custom enclosures with alternative connection types are
available upon request. An extension or adapter cable is required to connect the TRIO DP to the box.