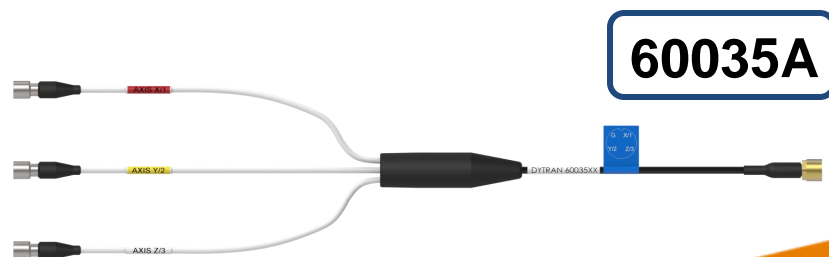
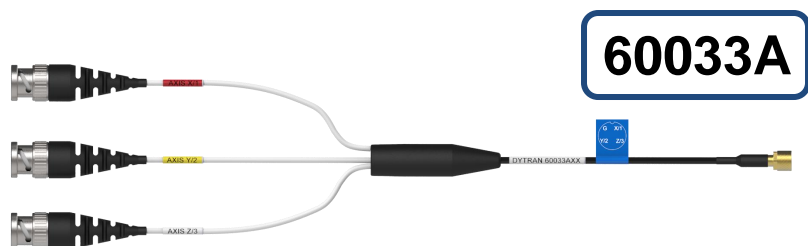


# Cable Assemblies with an IP65 Rated Connector



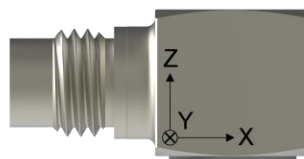
# Dytran Splash Proof Connector:

- These three innovative cables have a ¼-28 4-pin connector with an Ingress Protection rating of IP65 (in the mated condition)
- When these cables are connected to any hermetically sealed accelerometer the IP65 rated 4-pin connector makes the cable dust-tight and protected against water ingress due to splashing
- All Dytran cables are designed and manufactured in the USA and are available in various lengths



**IP65 rated ¼-28  
4-pin connector**

+



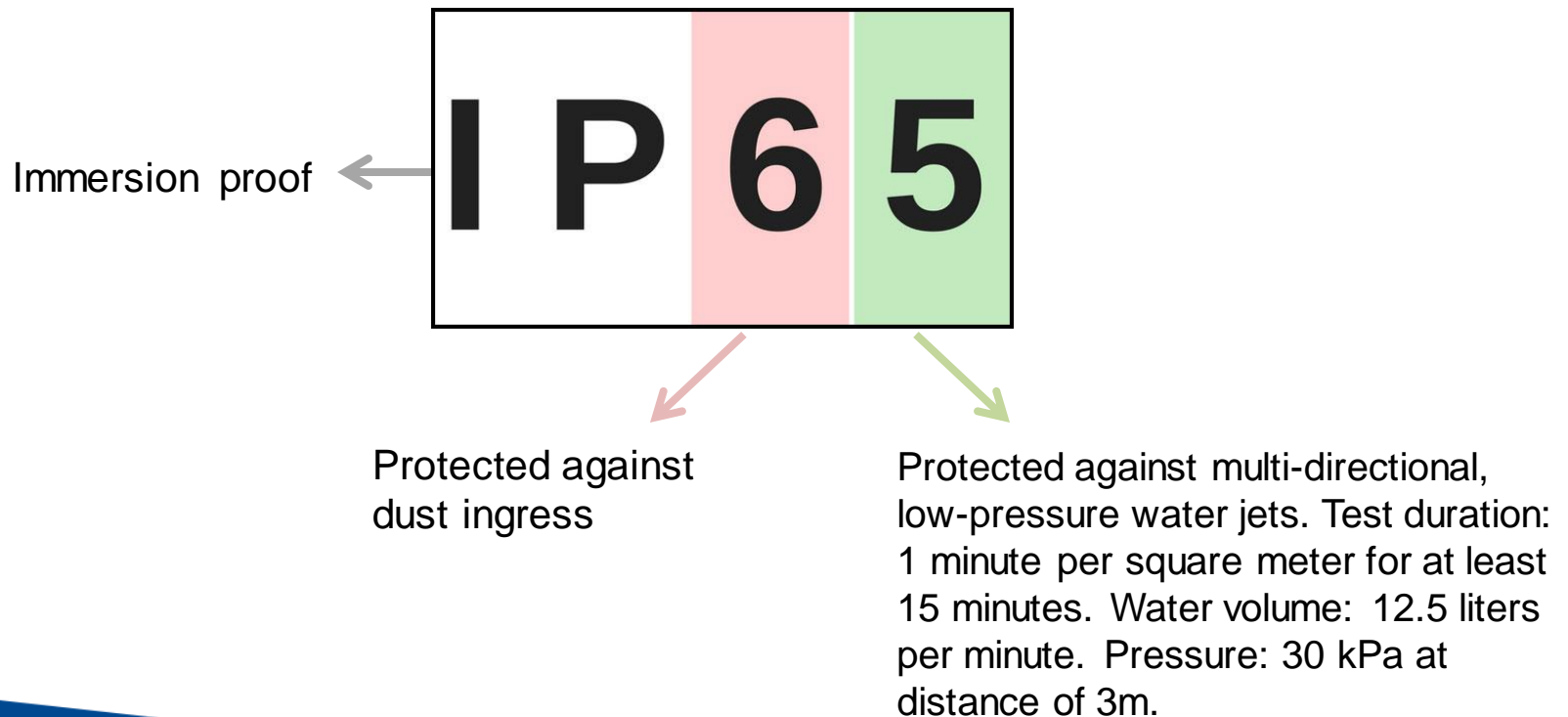
**Hermetically  
sealed sensor**

=



# Why is an IP65 Rating Important?:

- Rating is internationally recognized
- It is used to define levels of sealing effectiveness of electrical enclosures against intrusion from foreign bodies

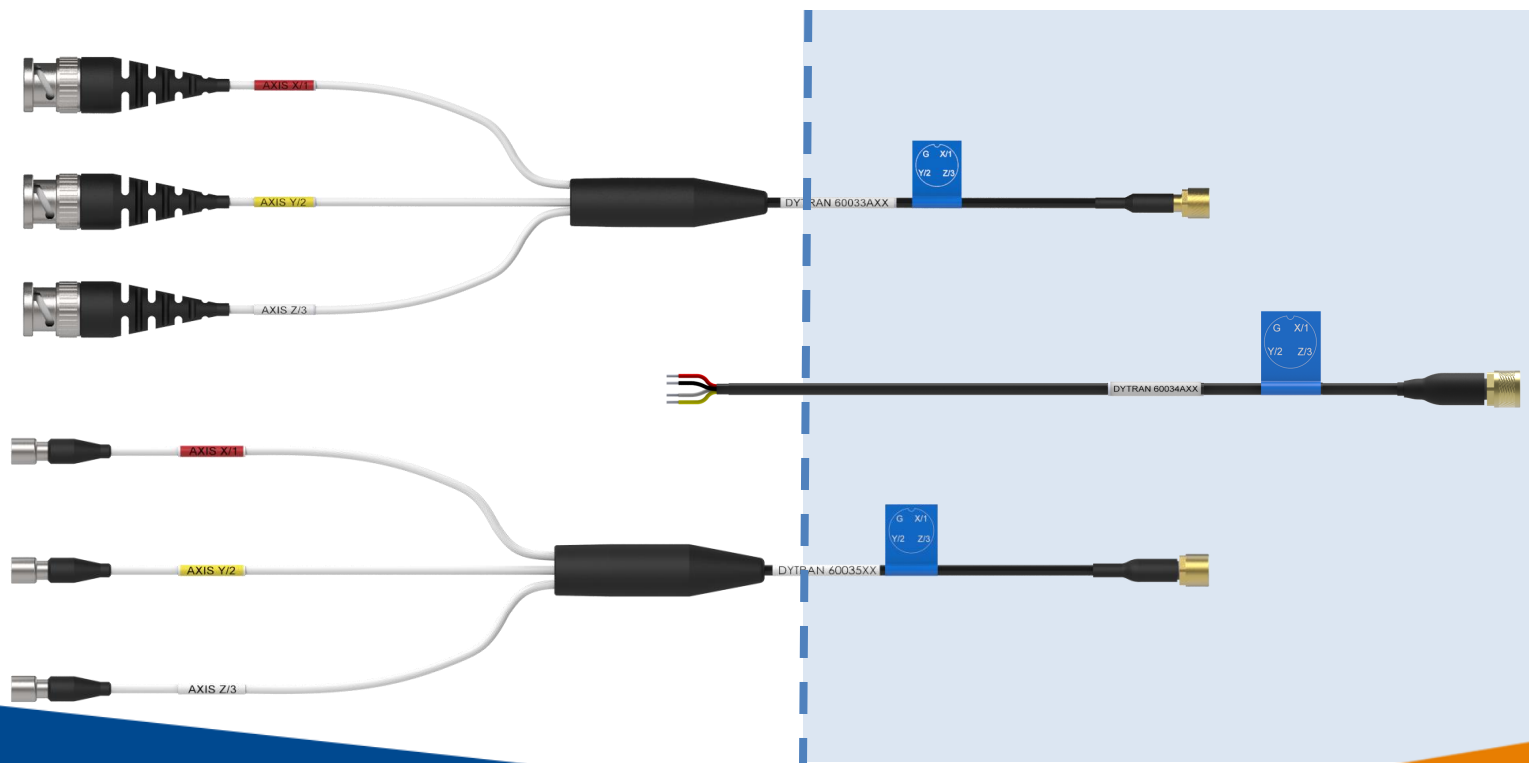


# IP65 Rating Protection:

- Cables are guaranteed to be splash proof and protected against dust ingress up to the **black molded triaxial splitter**

*Area NOT Covered by IP65 Rating  
(Triaxial splitter, flying leads, BNC plugs and 10-32 plugs)*

*Area Covered by IP65 Rating  
( $\frac{1}{4}$ -28 4-pin connector and cable)*



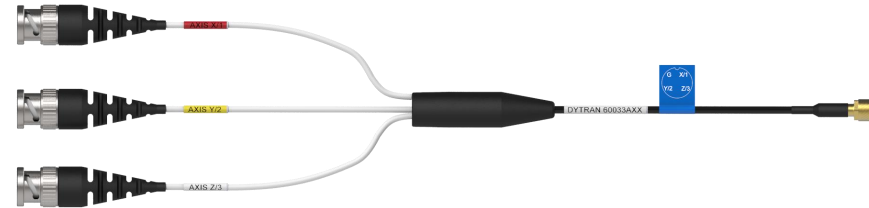
# What Can These Cables Do for You?:

- They offer protection against water ingress due to splashing when properly mated with our hermetically sealed triaxial accelerometers
- No need for using dielectric grease or heat shrink tubing
- Designed to survive harsh environments
- Perfect for the following applications:
  - Field testing
    - Outdoor and marine applications
  - Road load testing
    - Undercarriage and suspension testing
  - NVH applications



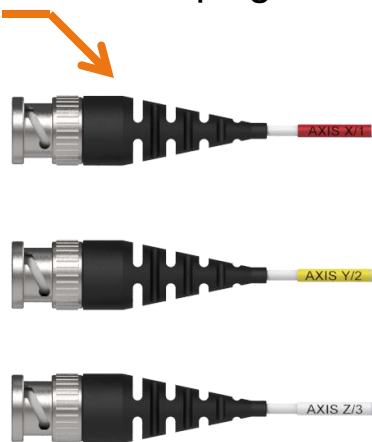
# Specifications: 60033A

- Triaxial, four conductor shielded cable
- Teflon™ Jacket
- IP65 rated ¼-28 4-pin connector to 3 BNC plugs
- Operating temperature: -55°C (-67°F) to +135°C (+275°F)
- Voltage: 250 Volts



# Product Functionality: Cable 60033A

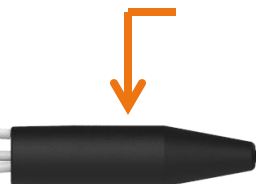
3X Santoprene BNC plugs



(Front View)



Molded Santoprene stress relief



IP65 rated 4-pin connector



4 conductor cable



3X Teflon coaxial cable



(Front View)



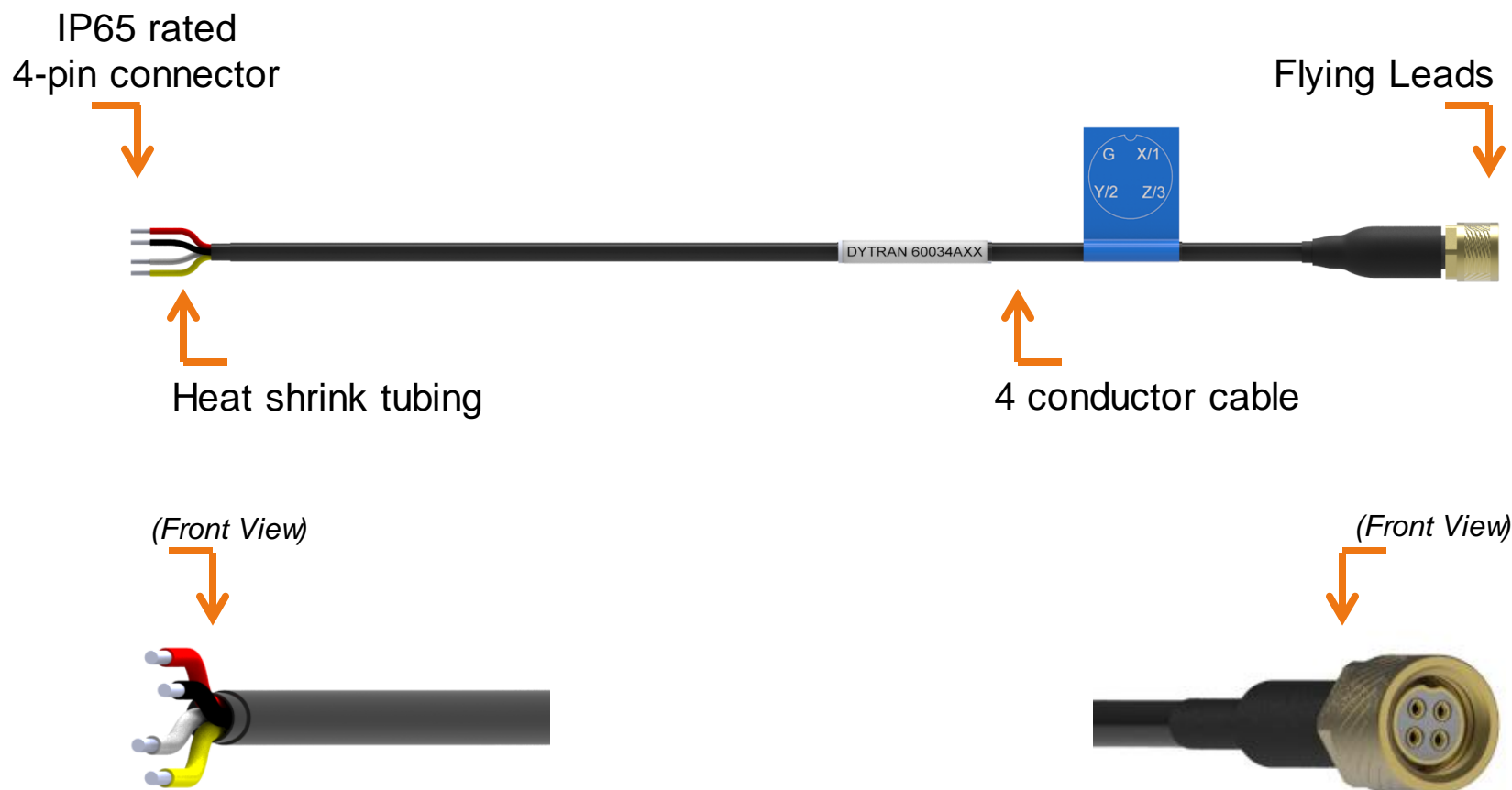
# Specifications: 60034A

- IP65 rated ¼-28 4-pin connector to flying leads
- Triaxial, four conductor shielded cable
- Teflon™ Jacket
- Operating temperature: -55°C (-131°F) to +110°C (+230°F)
- Voltage: 250 Volts



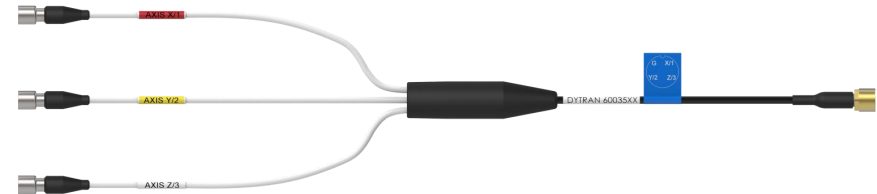


# Product Functionality: Cable 60034A



# Specifications: 60035A

- IP65 rated ¼-28 4-pin connector to 10-32 plugs
- Triaxial, four conductor shielded cable
- Teflon™ Jacket, black
- Operating temperature: -55°C (-67°F) to +135°C (+275°F)
- Voltage: 250 Volts



# Product Functionality: Cable 60035A

3X 10-32 plugs



AXIS X/1

AXIS Y/2

AXIS Z/3

Molded Santoprene  
stress relief



IP65 rated  
4-pin connector



4 conductor cable



3X Teflon coaxial cable



(Front View)



(Front View)



# Compatible Accelerometers:



- These cable are compatible with any industry standard pin-out, **hermetically sealed** accelerometer that use a 1/4-28 4-pin connector. The following Dytran triaxial accelerometers can be used with these cables:

Series	Features	Applications
3023	Miniature, Lightweight, high temperature	ESS, HALT/HASS, general purpose vibration measurements
3053	Case isolated, low profile, high temperature	ESS, product response testing, general purpose vibration measurements
3093	Case isolated, high sensitivity, low noise	Modal & structural analysis, NVH, product response testing, squeak & rattle
3143D	Case isolated, thru hole	Modal & structural analysis, whole body vibration measurements, rocket engine vibration measurements
3263	Miniature, high sensitivity, low noise	Modal & structural analysis, NVH, squeak and rattle, vibration control
3273	Ultra miniature, high sensitivity, low noise	Modal & structural analysis, NVH, squeak and rattle, vibration control
3293	Ultra high sensitivity, low noise	Modal & structural analysis, NVH, squeak and rattle, vibration control

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## **1 CABLE LENGTH TOLERANCE**

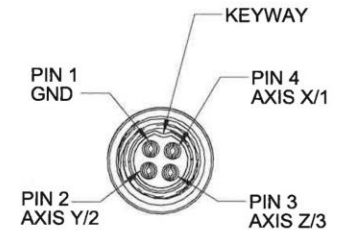
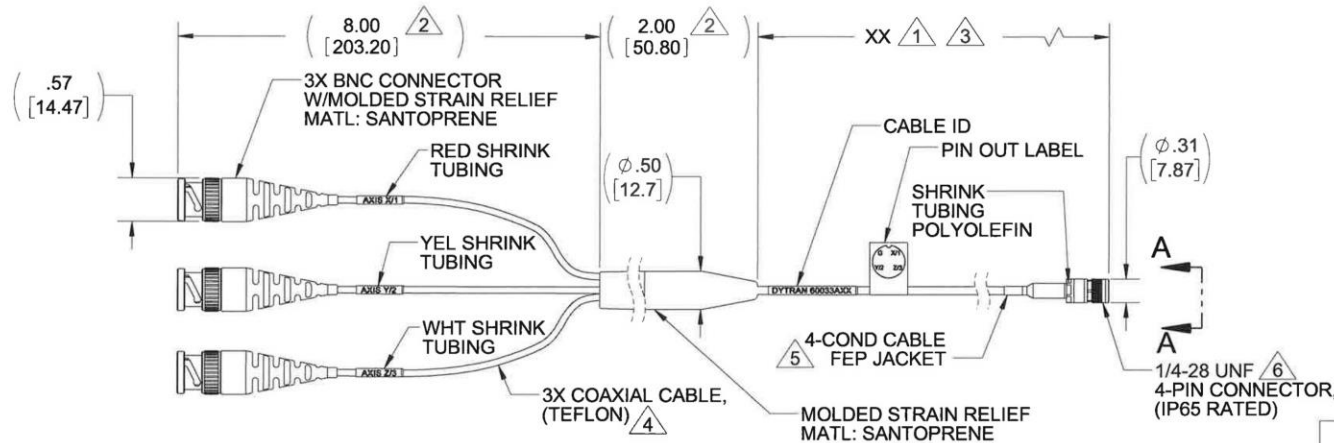
### **ENGLISH**

### **[METRIC]**

≤1FT	+1/-0 IN	≤0.3m	+25mm -0mm
>1 FT - 5 FT	+2/-0 IN	0.3 m-1.5m	+50mm -0mm
> 5 FT - 10 FT	+4/-0 IN	>1.5m-3m	+100mm -0mm
>10 FT - 25FT	+6 / -0 IN	>3m-7.5m	+150mm -0mm
>25 FT	+5% / -0%	>7.5m	+5%/-0%

## **REVISIONS**

REV.	ECN	DESCRIPTION	BY/DATE	CHK	APPR
A	13079	INITIAL RELEASE	LA 10/27/16	EM	LN
B	13524	SHT 2 OF 2 ADDED CONNECTOR MATING DETAIL	RA, 06/28/17	EM	AS
C	13956	CHANGE TO FLAG NOTE 6: IS: IP65, WAS: IP67	RA 01/08/18	EM	W



**VIEW A-A**  
**SCALE 3:1**

6 IP 65 RATING IN MATED CONDITION, SEE SHEET 2 OF 2.

5 SEE TABLE FOR 4 CONDUCTOR CABLE SPECIFICATION.

4 SEE TABLE FOR SINGLE CONDUCTOR CABLE SPECIFICATION, SEE SHEET 2 OF 2.



3 OPERATING TEMPERATURE: -67 °F (-55 °C) TO 275 °F (135 °C)

2 TEMPERATURE RATING: -55 °C TO 110 °C (67 °F TO 230 °F).

1 PART NUMBER 60033AXX. "XX" DENOTES LENGTH IN FEET.

NOTES: UNLESS OTHERWISE SPECIFIED

5 4 CONDUCTOR, SHIELDED CABLE	
WIRE	30 AWG 7/38 SILVER PLATED COPPER
SHIELD	SILVER PLATED COPPER BRAID, 90% MIN COVERAGE
JACKET	FEP, BLACK, .006/.015 WALL
DIAMETER	.105 MAX
TEMP	-65 °C (-85 °F) TO +200 °C (+392 °F)
VOLTAGE	250 VOLTS

<p>UNLESS OTHERWISE SPECIFIED: INTERPRET DIM &amp; TOL PER ASME Y14.5M - 1994. REMOVE BURRS. COUNTERSINK INTERNAL THDS 90° TO MAJOR DIA. CHAM EXT THDS 45° TO MINOR DIA. THD LENGTHS AND DEPTHS ARE FOR MIN FULL THDS. DIMENSIONS APPLY AFTER FINISHING.</p> <p>ALL MACHINED SURFACES. TOTAL RUNOUT WITHIN .005. BREAK SHAARP EDGES .005 TO .010. MACHINED FILET RADIUS .020 TO .015. WELDING SYMBOLS PER AWS A2.4. ABBREVIATIONS PER MIL-STD-12.</p>	<p>UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES. DIMENSIONS IN BRACKETS ARE IN MILLIMETERS TOLERANCES ARE:</p>			 <p><b>MASTER</b> ONLY IN RED</p> <p>Chatsworth, CA</p>			
	DECIMALS	XX ± .03 XXX ± .010	METRIC		X ± 0.8 XX ± 0.25	ANGLES	± 1°
	APPROVALS		DATE		TITLE:		
	ORIG	LA	10/27/16		OUTLINE/INSTALLATION DRAWING, CABLE ASSY, MINI 4-PIN PLUG TO (3) BNC		
	CHK	EM	05/30/17				
APP	LN	06/07/17		SIZE	CAGE CODE	DWG NO	REV
		THIRD ANGLE PROJECTION 		B	2W033	127-60033A	C
DO NOT SCALE DRAWING				SCALE:	1:1	SHEET 1 OF 2	

4

3

127-60033A

SP

2

REV

C

2

1

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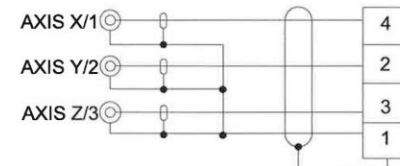
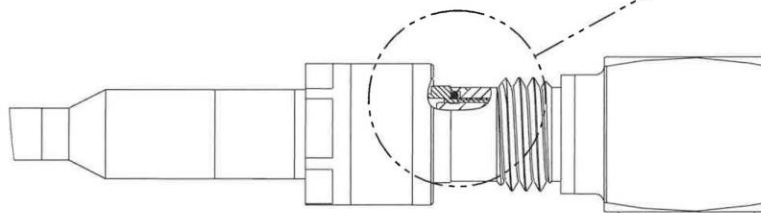
SENSOR 3023A WITH 4-PIN CONN. REF

3023A CONN. SEATED  
OVER O-RING, FULLY  
MATED BY HAND

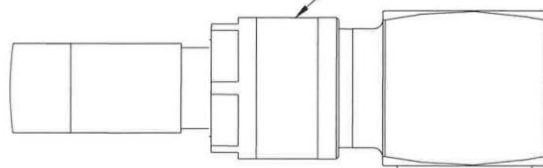
SHRINK TUBING

RETRACT NUT EXPOSING  
CONN. BODY

O-RING

**SCHEMATIC DIAGRAM**

NUT TIGHTENED BY HAND  
DRAWING PARTS TOGETHER



**6** **CONNECTOR MATING DETAIL**  
**SCALE: 2:1**



SINGLE CONDUCTOR SHIELDED CABLE

WIRE	30-7/38 SILVER PLATED COPPER
WIRE INSULATION	EXTRUDED PTFE, NATURAL, $\varnothing.033 \pm .002$
SHIELD	38 AWG SILVER PLATED COPPER BRAID, 95% MIN COVERAGE, $\varnothing.054$ NOM
JACKET	WHT PTFE WRAP .005-.010 WALL
DIAMETER	$\varnothing.074 \pm .006$
TEMP	200 DEG C WIRE RATED
VOLTAGE	2000 VAC
INDUCTANCE	.80 microH/FT
MINIMUM BEND RADIUS	.38 IN
CAPACITANCE (SHIELD TO CONDUCTOR)	32 pF/FT
IMPEDANCE	50 OHMS



TITLE: **OUTLINE/INSTALLATION  
DRAWING, CABLE ASSY, MINI  
4-PIN PLUG TO (3) BNC**

SIZE <b>B</b>	CAGE CODE <b>2W033</b>	DWG NO <b>127-60033A</b>	REV <b>C</b>
SCALE: 1:1	PART NO:	SHEET 2 OF 2	

172-0136 REV B

4

3

2

1

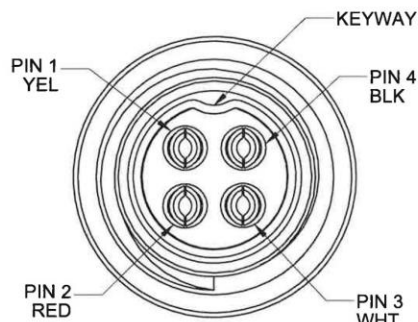


## PROPRIETARY AND CONFIDENTIAL

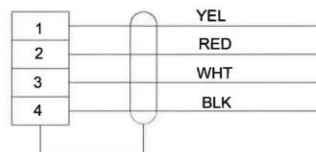
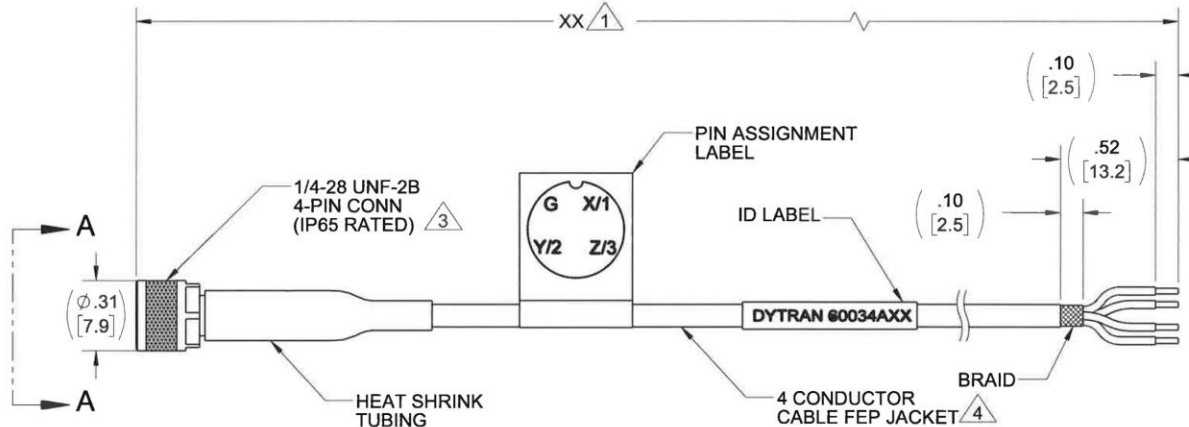
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## CABLE LENGTH TOLERANCE

ENGLISH		METRIC	
≤1 FT	+1/-0 IN	≤0.3m	+25mm/-0mm
>1 FT - 5 FT	+2/-0 IN	>0.3m-1.5m	+50mm/-0mm
>5 FT - 10 FT	+4/-0 IN	>1.5m-3m	+100mm/-0mm
>10 FT - 25 FT	+6/-0 IN	>3m-7.5m	+150mm/-0mm
>25 FT	+5%/-0%	>7.5m	+5%-0%



VIEW A-A  
SCALE 8 : 1



SCHEMATIC DIAGRAM

4 SEE TABLE FOR CABLE SPECIFICATIONS.

3 IP65 RATING IN MATED CONDITION, SEE MATING DETAIL, SHEET 2 OF 2.

2. CABLE ASSEMBLY OPERATING TEMPERATURE  
-55°C TO +110°C (-131°F TO +230°F)

1 MODEL NUMBER 60034AXX (XX DENOTES LENGTH IN FEET)

NOTES: UNLESS OTHERWISE SPECIFIED

## REVISIONS

REV	ECN	DESCRIPTION	BY/DATE	CHK	APPR
A	13454	INITIAL RELEASE	RA 05/09/17	MH	LN
B	13524	SHT 2 OF 2 ADDED CONNECTOR MATING DETAIL	RA, 06/27/17	EM	AS
C	13956	CHANGE TO FLAG NOTE 3: IS: IP65, WAS: IP67	RA, 01/09/18	EM	LN

## 4 CABLE SPECIFICATIONS

CONDUCTORS	30 AWG 7/38 SILVER PLATED COPPER
SHIELD	SILVER PLATED COPPER BRAID, 90% MIN COVERAGE
TEMPERATURE RATING	392°F (+200°C)
VOLTAGE	250 VOLTS
JACKET	.006/.015 WALL NOMINAL BLACK, FEP
CABLE DIA	φ.090" - φ.105" [2.29 - 2.67 mm] MAX

UNLESS OTHERWISE SPECIFIED:  
INTERPRET DIM & TOL PER  
ASME Y14.5M - 1994.  
REMOVE BURRS.  
COUNTERSINK INTERNAL THDS  
90° TO MAJOR DIA.  
CHAM EXT THDS 45° TO MINOR DIA.  
THD LENGTHS AND DEPTHS ARE FOR  
MIN FULL THDS.  
DIMENSIONS APPLY AFTER FINISHING.

ALL MACHINED SURFACES  
TOTAL RUNOUT WITHIN .005.  
BREAK SHARP EDGES .005 TO .010.  
MACHINED FILLET RADII .005 TO .015.  
WELDING SYMBOLS PER AWS A2.4.  
ABBREVIATIONS PER MIL-STD-12.

UNLESS OTHERWISE SPECIFIED:  
DIMENSIONS ARE IN INCHES.  
DIMENSIONS IN BRACKETS ARE IN  
MILLIMETERS TOLERANCES ARE:

DECIMALS .XX ±.03  
METRIC X ±0.8  
ANGLES ±1°

APPROVALS DATE

ORIG RA 05/09/17

CHK MH 05/18/17

APP LN 05/23/17

DO NOT SCALE DRAWING

THIRD ANGLE PROJECTION

DYTRAN INSTRUMENTS, INC.  
MASTER OUTLINE/INSTALLATION DRAWING

TITLE: OUTLINE/INSTALLATION  
DRAWING, MODEL 60034A

SIZE B CAGE CODE 2W033 DWG NO 127-60034A REV C

SCALE: 2:1 SHEET 1 OF 2

4

3

DWG NO

127-60034A

REV

2

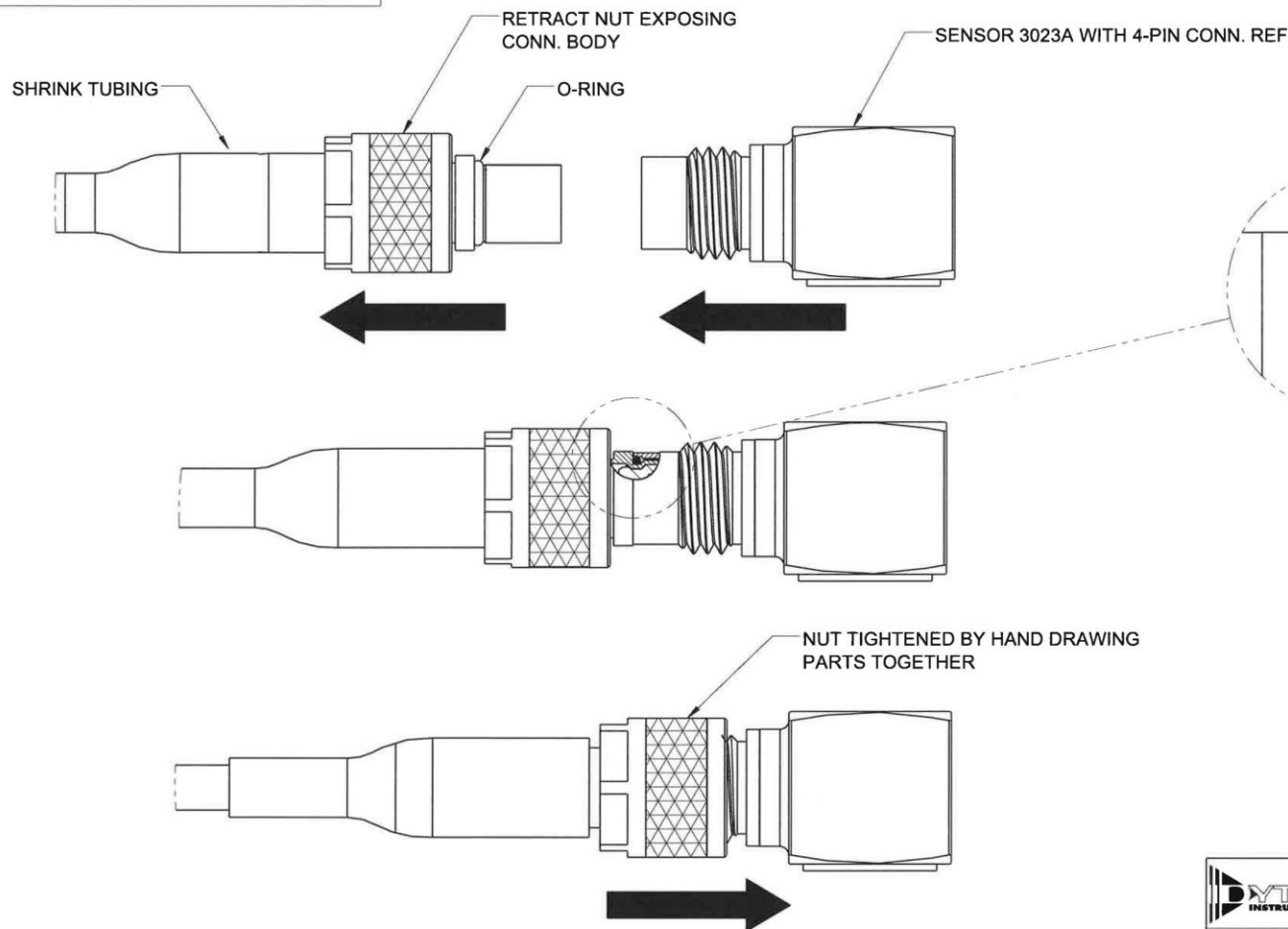
C

2

1

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**3** **CONNECTOR MATING DETAIL**  
**SCALE: 2:1**



**MASTER**  
**OUTLINE IN RED**  
Chatsworth, CA

TITLE:

**OUTLINE/INSTALLATION  
DRAWING, MODEL 60034A**

SIZE  
**B**CAGE CODE  
**2W033**

DWG NO

**127-60034A**REV  
**C**

SCALE: 1:4

PART NO: 127-60034A

SHEET 2 OF 2

172-6136 REV B

4

3

2

1

**60034A – Pg. 2**

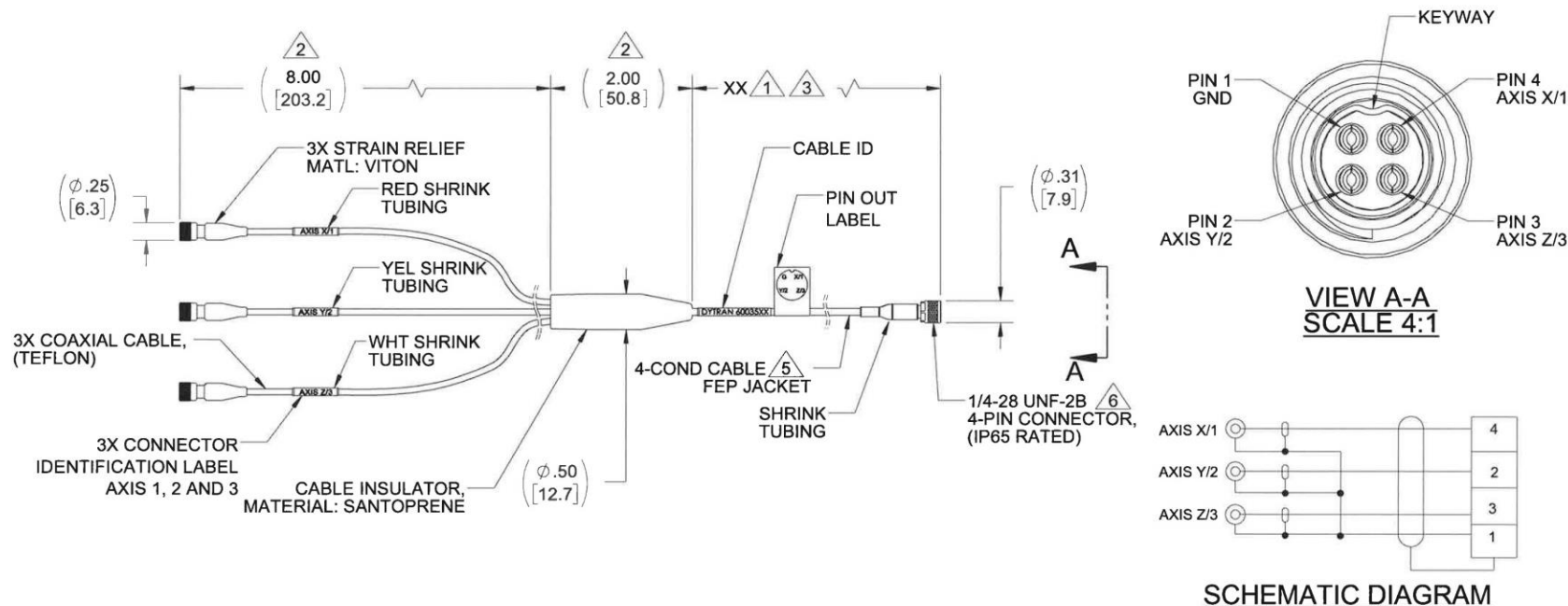


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**REVISIONS**

REV.	ECN	DESCRIPTION	BY/DATE	CHK	APPR
A	13460	INITIAL RELEASE, SAME AS X1	RA 05/12/17	MH	LN
B	13524	ADDED CONNECTOR MATING DETAIL, SHT 2 OF 2	RA 06/27/17	EM	LN
C	13956	CHANGE TO FLAG NOTE 6: IS: IP65, WAS: IP67	RA 01/08/18	EM	LN



- 6 IP65 RATING IN MATED CONDITION. SEE MATING DETAIL, SHEET 2 OF 2.
- 5 SEE TABLE FOR 4 CONDUCTOR CABLE SPECIFICATION, SHEET 2 OF 2.
- 4 SEE TABLE FOR SINGLE CONDUCTOR CABLE SPECIFICATION, SEE SHEET 2 OF 2.
- 3 OPERATING TEMPERATURE: -67 °F (-55 °C) TO 275 °F (135 °C)
- 2 TEMPERATURE RATING: -55 °C TO 110 °C (67 °F TO 230 °F).
- 1 PART NUMBER 60035AXX. "XX" DENOTES LENGTH IN FEET, SEE SHEET 2 OF 2.

NOTES: UNLESS OTHERWISE SPECIFIED

UNLESS OTHERWISE SPECIFIED:  
INTERPRET DIM & TOL PER  
ASME Y14.5M - 1994.  
REMOVE BURRS.  
COUNTERSINK INTERNAL THDS  
90° TO MAJOR DIA.  
CHAM EXT THDS 45° TO MINOR DIA.  
THD LENGTHS AND DEPTHS ARE FOR  
MIN FULL THDS.  
DIMENSIONS APPLY AFTER FINISHING.

ALL MACHINED SURFACES:  
TOTAL RUNOUT WITHIN .005.  
BREAK SHARP EDGES .005 TO .010.  
MACHINED FILLET RADII .005 TO .015.  
WELDING SYMBOLS PER AWS A2.4.  
ABBREVIATIONS PER MIL-STD-12.

UNLESS OTHERWISE SPECIFIED:  
DIMENSIONS ARE IN INCHES  
DIMENSIONS IN BRACKETS [ ] ARE IN  
MILLIMETERS TOLERANCES ARE:

DECIMALS	METRIC	ANGLES
XX ± .03	X ± 0.8	ANGLES ± 1°
XXX ± .010	XX ± 0.25	

APPROVALS

ORIG	LA	DATE
CHK	MH	05/26/17
APP	LN	05/31/17

DO NOT SCALE DRAWING

**DYTRAN INSTRUMENTS, INC.**

**MASTER OUTLINE/INSTALLATION DRAWING 4 PIN PLUG TO 10-32**

TITLE: OUTLINE/INSTALLATION DRAWING 4 PIN PLUG TO 10-32

SIZE	CAGE CODE	DWG NO	REV
B	2W033	127-60035A	C

SCALE: 1:1

SHEET 1 OF 2

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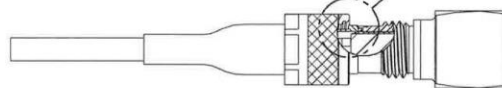
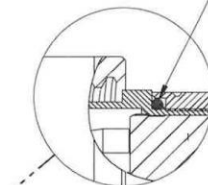
RETRACT NUT EXPOSING  
CONN. BODY

O-RING

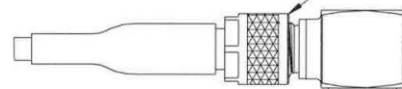
SENSOR 3023A  
WITH 4-PIN CONN. REF

SHRINK TUBING

3023A CONN. SEATED  
OVER O-RING, FULLY  
MATED BY HAND



NUT TIGHTENED BY HAND  
DRAWING PARTS TOGETHER



**6** CONNECTOR MATING DETAIL  
SCALE 2 : 1

**4 SINGLE CONDUCTOR SHIELDED CABLE**

WIRE	30-7/38 SILVER PLATED COPPER
WIRE INSULATION	EXTRUDED PTFE, NATURAL, Ø.033 ±.002
SHIELD	38 AWG SILVER PLATED COPPER BRAID, 95% MIN COVERAGE, Ø.054 NOM
JACKET	WHT PTFE WRAP .005-.010 WALL
DIAMETER	Ø.074±.006
TEMP	200 DEG C WIRE RATED
VOLTAGE	2000 VAC
INDUCTANCE	.80 microH/FT
MINIMUM BEND RADIUS	.38 IN
CAPACITANCE (SHIELD TO CONDUCTOR)	32 pF/FT
IMPEDANCE	50 OHMS

**1 CABLE LENGTH TOLERANCE**

ENGLISH		[METRIC]	
≤1FT	+1/-0 IN	≤0.3m	+25mm -0mm
>1 FT - 5 FT	+2/-0 IN	.0.3 m-1.5m	+50mm -0mm
> 5 FT - 10 FT	+4/-0 IN	>1.5m-3m	+100mm -0mm
>10 FT - 25FT	+6/-0 IN	>3m-7.5m	+150mm -0mm
>25 FT	+5% / -0%	>7.5m	+5%/-0%

**5 4 CONDUCTOR, SHIELDED CABLE**

WIRE	30 AWG 7/38 SILVER PLATED COPPER
SHIELD	SILVER PLATED COPPER BRAID, 90% MIN COVERAGE
JACKET	FEP, BLACK, .006/.015 WALL
DIAMETER	.105 MAX
TEMP	-65 °C (-85 °F) TO +200 °C (+392 °F)
VOLTAGE	250 VOLTS



TITLE:  
**OUTLINE/INSTALLATION DRAWING  
4 PIN PLUG TO 10-32**

SIZE <b>B</b>	CAGE CODE <b>2W033</b>	DWG NO <b>127-60035A</b>	REV <b>C</b>
SCALE: 1:1	PART NO:	SHEET 2 OF 2	

# Discover Exciting New Innovations at [www.dytran.com](http://www.dytran.com)



**VibraCorder™ II 4401A2**



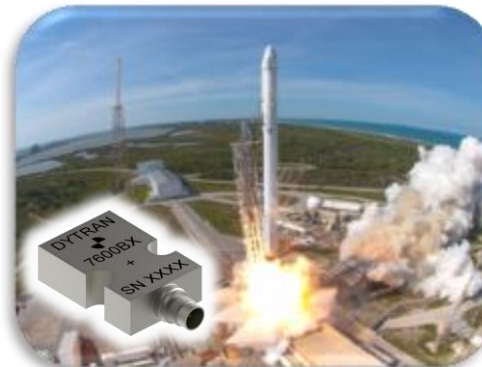
**ELF 7705A**



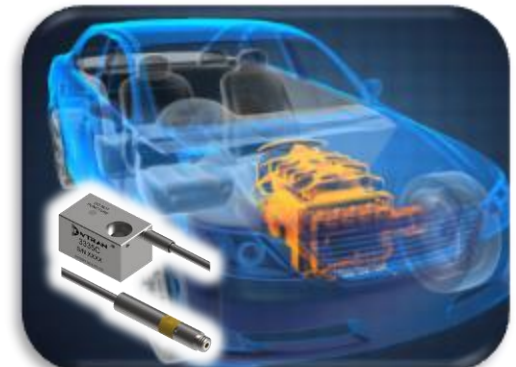
**CVLD 7506A**



**6DOF 7576A**



**DC MEMS 7600B**



**Silver Window™ 3335C**



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**[info@dytran.com](mailto:info@dytran.com)**