



# **Intrinsically Safe DTAM Plus, Series B**

## **(Catalog Number 2707-L40P4)**

### **Overview**

This Release Note supports the Introduction of Series B of the Intrinsically Safe (IS) DTAM Plus, which includes CE certification. The DTAM Plus family of products provide a low cost, general purpose operator interface to Allen-Bradley PLC® or SLC™ processors. The IS DTAM Plus operates in hazardous environments (Class 1 Division 1) where an explosive atmosphere may exist, and meets requirements for Groups C and D. This document provides information you will need to install and operate the IS DTAM Plus.

- Product Information
- Warnings and Cautions
- Intended Audience
- Feature Summary
- Accessories
- Isolation Barriers
- Wiring Connections

### **Product Information**

Refer to the following DTAM Plus literature for product information.

- DTAM Plus Product Data Sheet (Publication 2707-2.0)
- DTAM Plus User Manual (Publication 2707-800)
- DTAM Programming Software Programming Manual (Publication 2707-801)

The information provided in these publications applies to the IS DTAM Plus with the exceptions noted in this publication.

### **Warnings and Cautions**

Note the following before attempting to install or operate the Intrinsically Safe DTAM Plus.



**DANGER:** Substitution of components may impair intrinsic safety.

**DANGER:** La substitution de composants peut compromettre la securite intrinseque.



**ATTENTION:** The Intrinsically Safe DTAM Plus is only certified for hazardous locations when the communications and input power lines are properly connected to certified isolation barriers (energy-limiting devices).

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### **Intended Audience**

This document assumes that the user is familiar with installing equipment in hazardous locations and the use of isolation barriers.

## Feature Summary

The following chart provides a summary of the differences between the IS DTAM Plus and other DTAM Plus products.

Item	Option(s)
Power Input	11–13V DC
Memory	40K Memory supports 244 screens of data
Display	Liquid Crystal Display (LCD), VFD option not available
ASCII Input	Not available
Printer Port	Not available
Brightness Control	Fixed, four contrast settings are available.
Real Time Clock	Not available

## DTAM IS Accessories

To install and configure the IS DTAM Plus, you may need the following accessories.

### Software Upgrade Kit

Version 6.0 of the DTAM Programming Software (DPS, Catalog No. 2707-NP Series F) is required to configure the IS DTAM Plus. If you are using an earlier version, update your software using the Upgrade Kit (Catalog No. 2707-NFK). An instruction sheet is provided with the kit.

### Isolation Barriers

Isolation barriers isolate the safe side of an application from the hazardous side. Both the communication lines and power lines require isolation barriers. Isolation barriers are only required if the IS DTAM Plus is installed in a hazardous environment or is communicating with a controller in a hazardous location.

## Isolation Barriers

Isolation barriers are required when the IS DTAM Plus or a connected device is located in a hazardous location. Isolation barriers isolate the safe side of an application from the hazardous side. Both the power input and communication lines must be isolated.

### Input Power Line Barriers

The following are recommended barrier suppliers and part numbers.

- Type ZH-112/Ex Line Barrier  
Supplier: Pepperl + Fuchs
- Type WE77-112/Ex Line Barrier  
Supplier: Pepperl + Fuchs



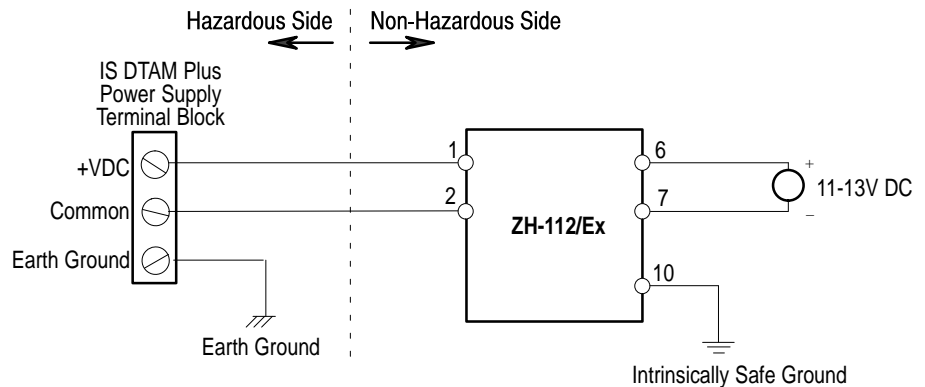
**ATTENTION:** Refer to the instructions provided with the isolation barrier for installation instructions.



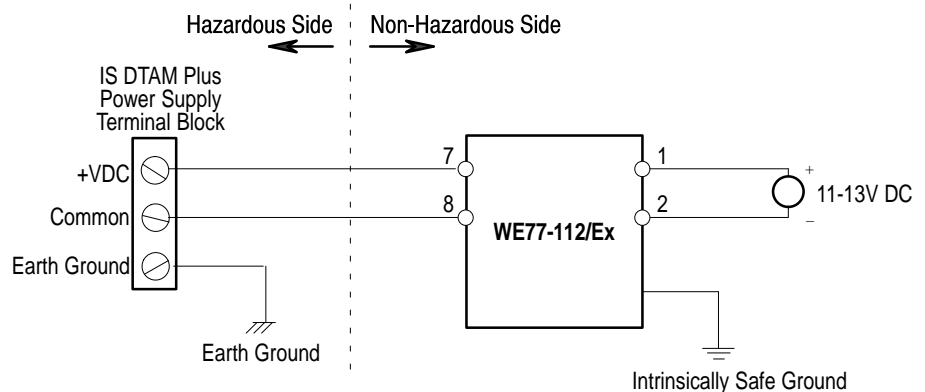
**ATTENTION:** Never connect or disconnect equipment while the circuit is live unless the area is known to be non-hazardous. Failure to observe this precaution could result in injury or death.

The following figures show how to wire these isolation barriers:

**ZH-112/Ex  
Input Line Barrier**



**WE77-112/Ex  
Input Line Barrier**



## Communication Line Barriers

- RS-232 Communication Line Barrier  
Supplier: Pepperl + Fuchs  
Part Numbers: KHD2-EF-EX 2.P-RS232 (1 required)  
Z-966 (1 required)
- RS-485 Communication Line Barrier  
Supplier: Pepperl + Fuchs  
Part Numbers: Z-966 (3 required)

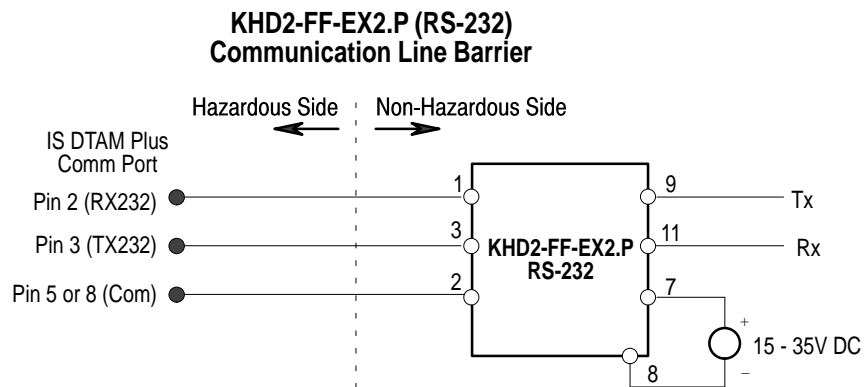


**ATTENTION:** Refer to the instructions provided with the isolation barrier for installation instructions.

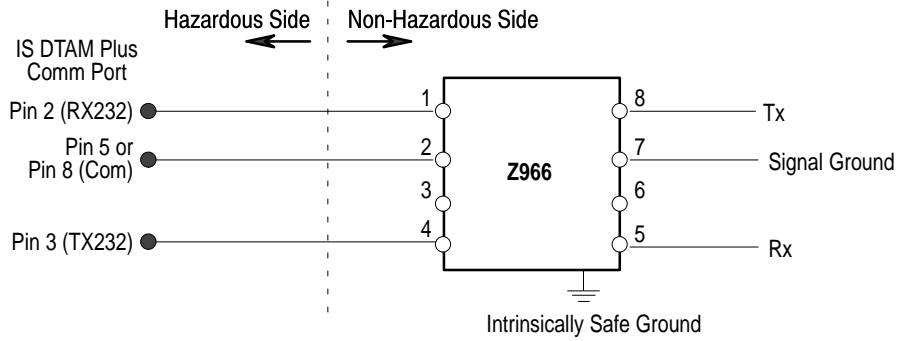


**ATTENTION:** Never connect or disconnect equipment while the circuit is live unless the area is known to be non-hazardous. Failure to observe this precaution could result in injury or death.

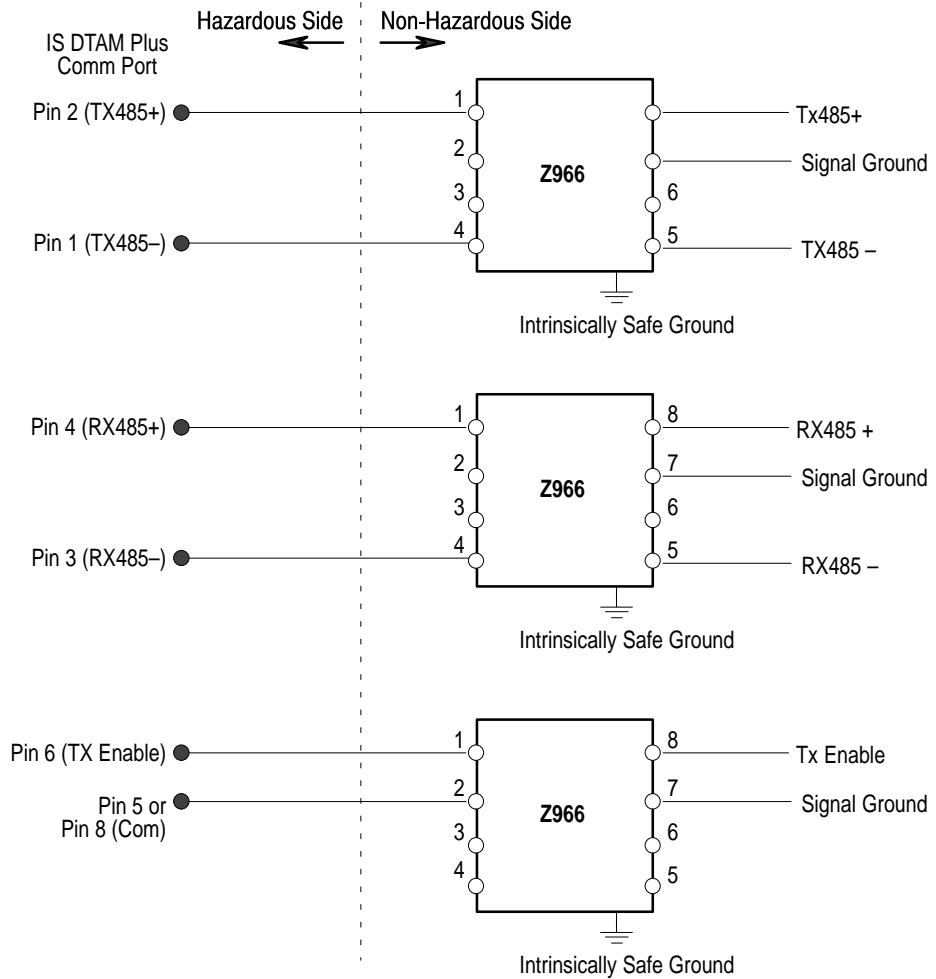
The following figures show how to wire these isolation barriers. The IS DTAM Plus Comm Port is a 9-pin D shell female connector. The cable that connects to the Comm Port requires a 9-pin D shell male connector.



**Z966  
Communication Line Barrier  
(Shown for RS-232 Connections)**



**Z966  
Communication Line Barriers  
(Shown for RS-485 Connections)**



## Upload/Download Cable Barriers

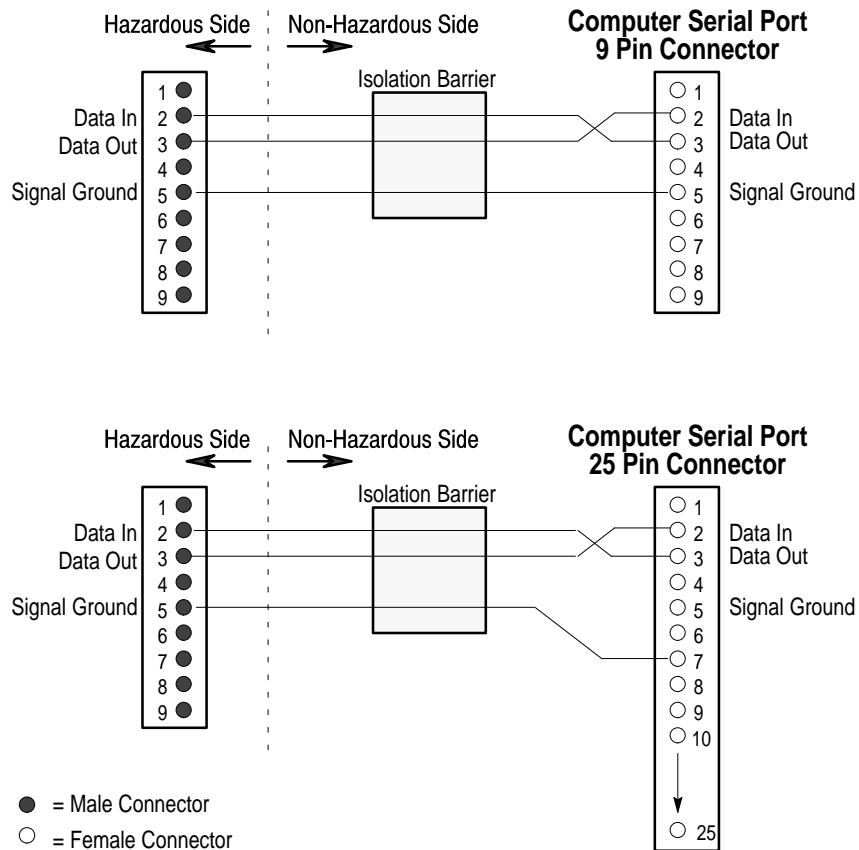
The upload/download cable between the IS DTAM Plus and your personal computer must also be isolated using isolation barriers, if used in a hazardous environment. The following diagram shows the cable connections for both 9 and 25 pin connectors.



**ATTENTION:** Refer to the instructions provided with the isolation barrier for installation instructions.



**ATTENTION:** Never connect or disconnect equipment while the circuit is live unless the area is known to be non-hazardous. Failure to observe this precaution could result in injury or death.

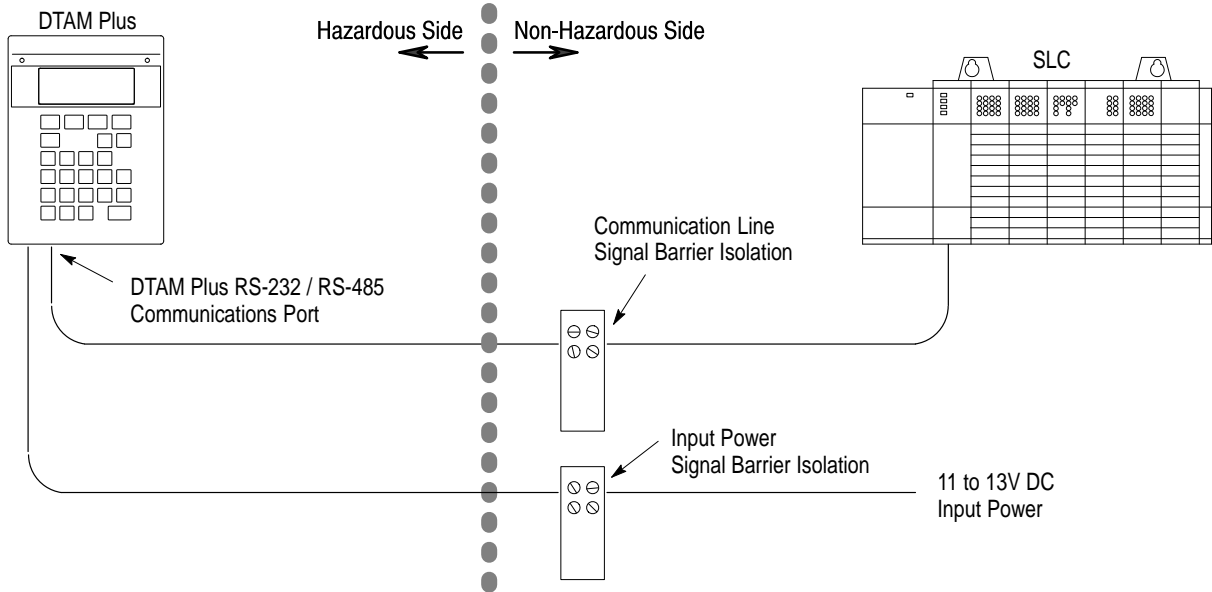


## Wiring Connections

The IS DTAM Plus communicates with SLC or PLC controllers through its RS-485/RS-232 Communication Port. Refer to the DTAM Plus User Manual (Publication No. 2707-800) for cable and connector information. Isolation barriers for communication and power lines are required for all Class 1 Division 1 environments.

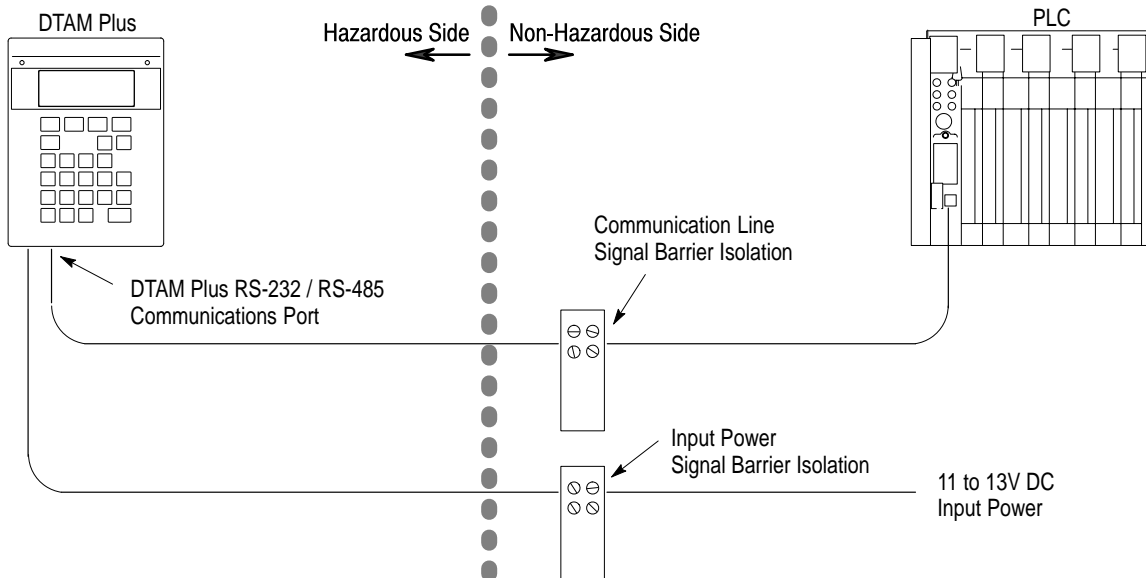
### IS DTAM Plus to an SLC with Isolation Barriers

In this application, the IS DTAM Plus and SLC controller are installed in two separate locations. Isolation barriers are required.



### IS DTAM Plus to an PLC with Isolation Barriers

In this application, the IS DTAM Plus and SLC controller are installed in two separate locations. Isolation barriers are required.



## Specifications

### Display

4 line x 20 characters  
 Liquid Crystal Display with Yellow-Green Backlight  
 Character Size: .19 x .12 inch (4.75 x 2.95 mm)  
 Viewing Angle  
     Horizontal  $\pm$  30 degrees  
     Vertical -20 to +30 degrees

### Keypad

Stainless Steel Domed Membrane  
 Operation Force: 12 oz  $\pm$  3 oz  
 Operation Life: 1 million cycles

### Communications

Communication Port: RS-485 DH485 or RS-232 DF1

### Dimensions (Approximate)

Height: 7.6 inch (193.0 mm)  
 Width: 5.5 inch (139.7 mm)  
 Depth: 2.5 inch (63.5 mm)  
 Front Panel Size  
     Height: 8.5 inch (215.9 mm)  
     Width: 6.5 inch (165.1 mm)  
 Weight 3.0 lbs (1.36 kg)

### Electrical

P4 Power Supply 11 – 13 VDC  
 250 mA maximum  
 0.5 Amp Fuse

### Environmental

Operating Temperature: 0 to 55 °C (32 to 131 °F)  
 Storage Temperature: -20 to 70 °C (-4 to 158 °F)  
 Humidity Rating: Up to 95% (Without Condensation)

## Agency Ratings

NEMA Type 4, 12, 13 (indoor use only)

FCC Part 15, Class A



Class I Division 1 Groups C & D, hazardous locations  
 Temperature Code T3C



EN50081-2 Class A (Industrial) Emissions  
 EN50082-2 Class A (Industrial) Immunity

## European Union Directive Compliance

If this product is installed within the European Union or EFTA regions, the following regulations apply.

This apparatus is tested to meet Council Directive 89/336  
 Electromagnetic Compatibility (EMC) Standards:

- EN50081-2 Class A (Industrial) Emissions
- EN50082-2 Class A (Industrial) Immunity

According to these Standards, the factor which determines, for EMC purposes, whether an apparatus is deemed to be “Industrial” or “Residential, commercial and light industrial”, is given in Clause 1 of EN50081-2 as follows:

Apparatus covered by this standard is not intended for connection to a public mains network but is intended to be connected to a power network supplied from a high- or medium-voltage transformer dedicated for the supply of an installation feeding a manufacturing or similar plant.

The product described in this Release Note is intended for use solely in an industrial environment as defined above. When installed in Europe, any other application is in contravention of European Union Directives, and a breach of those laws.



## DECLARATION OF CONFORMITY

This Declaration of Conformity is suitable to the European Standard EN 45014, "General criteria for supplier's declaration of conformity." The basis for the criteria has been found in international documentation, particularly in: ISO/IEC Guide 22, 1982, "Information on manufacturer's declaration of conformity with standards or other technical specifications."

Allen-Bradley liability under this declaration is limited to that set forth in the current Allen-Bradley publication 6500, Terms and Conditions of Sale as well as similar publications from Allen-Bradley affiliates doing business in the European Community.

**Applied Council Directive(s):**  
**89/336/EEC Electromagnetic Compatibility Directive (EMC)**  
**and amending directives 91/263/EEC, 92/31/EEC, 93/68/EEC;**

We,

**Manufacturer:** Allen-Bradley Company, Inc.  
 1201 South 2nd Street  
 Milwaukee, WI 53204  
 U.S.A.

**Authorized Representative in the Community (and location of Responsible Person):**

Rockwell Automation,  
 Rockwell International GmbH  
 Düsselberger Str. 15  
 D-42781 Haan Germany

declare under our sole responsibility that the following  
**DTAM Plus Operator Interface Products**  
**2707-L40P4**

(all catalog numbers are series B or higher)

to which this declaration relates are in conformity with the relevant provisions of the following standard(s) or other normative document(s):

**EN 50081-2: 1993**  
**EN 50082-2: 1995**

**EMC Generic Emission Standard - Industrial**  
**EMC Generic Immunity Standard - Industrial**

**Technical Information is maintained at:**

Allen-Bradley Company, Inc.  
 1201 South 2<sup>nd</sup> Street  
 Milwaukee, WI 53204  
 U.S.A.

**Year of CE Marking (low Voltage Directive):**

We, the undersigned, hereby declare that the product(s) specified above conforms to the listed directive(s) and standard(s).

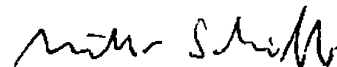
**Manufacturer**

**Authorized Representative in the Community through its Responsible Person**  
 Signature:

Signature:



i.V.



**Full Name:** Robert Gardiner  
**Position:** Manager, Quality Engineering  
**Date:** February 24, 1997

**Full Name:** Viktor Schiffer  
**Position:** Engineering Manager  
**Date:** March 7, 1997

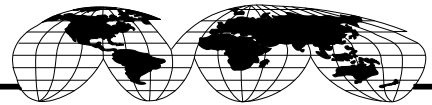
## Notes

## Notes



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Rockwell Automation Headquarters, 1201 South Second Street, Milwaukee, WI 53204-2496 USA, Tel: (1) 414 382-2000 Fax: (1) 414 382-4444

Rockwell Automation European Headquarters, Avenue Hermann Debroux, 46, 1160 Brussels, Belgium, Tel: (32) 2 663 06 00, Fax: (32) 2 663 06 40

Rockwell Automation Asia Pacific Headquarters, 27/F Citicorp Centre, 18 Whitfield Road, Causeway Bay, Hong Kong, Tel: (852) 2887 4788, Fax: (852) 2508 1846

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