

### **Electro-Magnetic Compatibility (EMC)**

This product complies with Council Directive 2004/108/EC when installed and used in accordance with the relevant instructions.



### **Service and Technical Support**

PLEASE CONTACT YOUR NEAREST DISTRIBUTOR  
If unknown then fax: 44 (0) 1453 733322

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# **User Guide**

## **ICP 300 In-Cab Printer**

Operation

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## 1. Introduction

Figure 1



The RDS ICP 300 In-Cab printer is an ultra-compact thermal printer designed for easy paper loading. It accepts 58mm wide rolls up to 44mm dia.

The printer is connected to and powered from the instrument via a custom cable with RJ-12 connector, and operates with a supply voltage in the range 10-35V dc.


No maintenance is required, except to occasionally clean the rubber paper roller to remove any dirt buildup.

## 2. Operation

When installed with a Wizard instrument the printer is normally powered on as the vehicle is started.

When installed with a Pro-Series/Psi instrument the printer is powered on when the instrument is switched on.

The status LED illuminates and the printer mechanism is reset.

Pressing the  button advances the paper.

## 2.1 Power-On Self-Test



Press and hold the button and then power up the instrument. The printer will then print a self-test report.

The self-test procedure checks most of the printer functions except for the serial interface

## 2.2 Status LED

If there is a problem with the printer, the status LED will indicate a fault condition by a flashing sequence as follows.

LED Indication	Condition	Solution
On	Normal	-
Off	No Power	-
* * *	Paper Out	Fit new paper
** ** **	Print head too hot	Allow head to cool
*** *** ***	Power below 10V dc	Check supply +V

## 2.3 Replacing the paper roll

Pull the lever up until the lid is released. Do not use excessive force.



Figure 2: Unlock paper compartment

Replace the roll and press the lid at each side until it clicks shut.



Figure 3: Lock paper compartment

## 2.4 Maintenance

Occasionally, it may be necessary to clean dust or foreign matter from the paper compartment. Wipe the paper compartment clean using a dry soft cloth only.

The rubber roller can be removed for cleaning if necessary. Push the roller forwards at each end to disengage it from the slots (figure 4).

*NOTE: DO NOT angle the roller too far with one end still engaged as this may break the moulding.*

*DO NOT touch or attempt to clean the print head.*

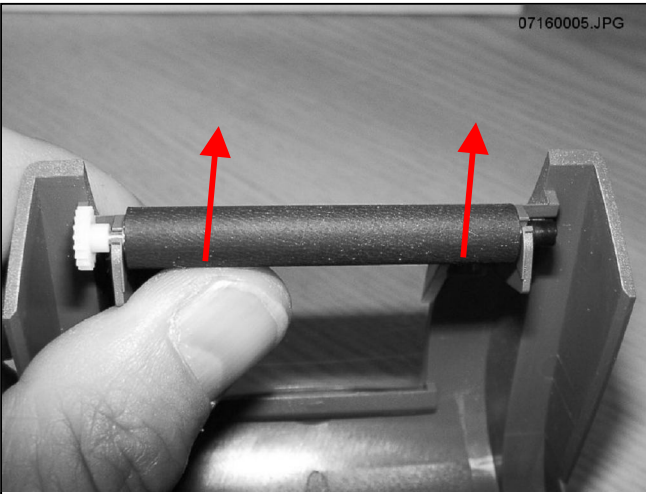


Figure 4: Remove paper roller

## 2.5 Service

There are no servicable parts. In the event of damage or failure, the printer is replaceable only as a complete unit.

### 3. Installation - RDS Instruments

#### 3.1 Connection - RDS 'Wizard', 'G-Wiz', 'G-CAN', 'ISOCAN'

(Printer cable Pt No. S/CB/167-4-005)

These instruments all utilise variants of the 'Terminator' junction box for RS232 serial connections.

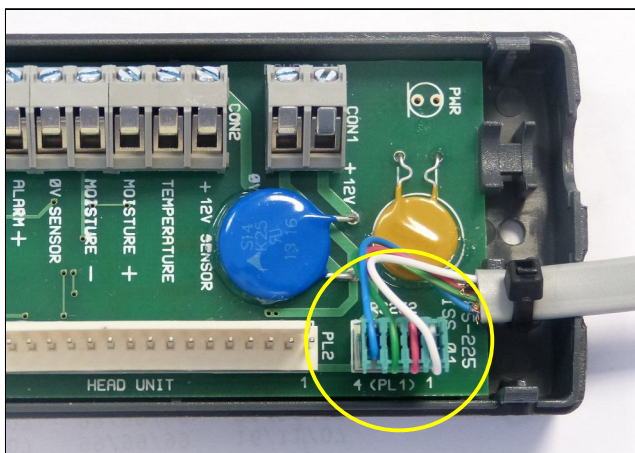
A 4-way IDC header is the standard connection for the ICP300 printer (fig. 5).

IDC Connections:

Pin	Wire Colour	Function
1	White	+V Supply (10-35V)
2	Red	CST (from printer)
3	Green	Rx (To printer)
4	Blue	ground

1. Plug the printer cable (RJ-12) into the back of the printer.
2. Plug the printer cable in the terminal box as shown (using a cable-tie for strain relief).

Figure 5



### 3.2 Connection - RDS 'Pro-Series'

(Printer cable Pt No. S/CB/167-4-006)

Depending on the product variant, connect the 9-way 'D' plug into either the top port or the bottom port on the back of the head unit.

A connector clamp is supplied to secure the plug in position.

Product	Port Used
Loadmaster 8000i / 8000iX	TOP
Ceres 8000i	BOTTOM
PS Artemis	BOTTOM

### 3.3 Setup

For all RDS instruments, the default protocol settings for printer output are as follows,

Baud Rate	4800
Data Bits	8
Stop Bits	1
Parity	None
Handshake	RTS

*NOTE: The printer is not configurable.*

#### **'Wizard' and 'G-Wiz'**

Depending on the product variant, there may be an 'ON/OFF' setting in the Setup menu to enable printer output.

Please refer to the calibration manual for your instrument to configure printer output.

#### **'Pro-Series', 'G-CAN' and 'ISOCAN'**

These instruments have 2 serial ports configurable for devices other than printers, such as GPS, barcode scanners etc. Depending on the software default settings for a particular product variant, it may be necessary to re-configure the port setting in the Setup menu to enable printer output.

Please refer to the calibration manual for your instrument to configure printer output.



## 4 **Installation - Digi-Star Indicators**

*(Printer cable Pt No. S/CB/167-4-007)*

Your Digi-Star scale indicator needs to be configured to run with your new ICP300 printer. Version 8.0 or newer software is required for the printer to function correctly. A RS232 serial port needs to be present on your scale indicator, which is normally labeled as "Serial", "J904", or "J905" based on model.

### 4.1 **Verify Software Revision**

1. Turn on the scale and wait for normal operation.
2. Press "**ON**" to start the self-test sequence (EZ2500V and EZ400/ GT400 models press "**NET/GROSS**" then "**ON/OFF**" to start).
3. Watch the self-test sequence on the screen. The words "PRG ID" will be displayed, followed by the software version code. Press "**ON**" to pause the test if needed. This software code must be "8.0" or larger to continue; contact Digi-Star or an authorized service center to upgrade to newer software if required.
4. Press any other key to cancel the self-test.

### 4.2 **Setup Keypad-based Scales**

1. Press **271** on keypad then "**Select**".
2. Press "**Select**" again until "**8N1**" is displayed.
3. Press "**ON**" to save.
4. Press **275** on keypad then "**Select**".
5. Press "**Select**" again until "4800" is displayed.
6. Press "**ON**" to save.
7. Turn off indicator, then turn back on.

### 4.3 Setup Basic Scales

1. Hold "NET/GROSS" then press "ON".
2. Press "NET/GROSS" or "Select" two times to access MENU 2.
3. Repeatedly press "ON" until "C1-1PA" is briefly displayed.
4. Press "NET/GROSS" or "Select" again until "8N1" is displayed.
5. Press "ON" until "C1-1BD" is briefly displayed.
6. Press "NET/GROSS" or "Select" again until "4800" is displayed.
7. Repeatedly press "ON" until indicator is no longer in MENU settings (normal operation).
8. Turn off indicator, then turn back on.

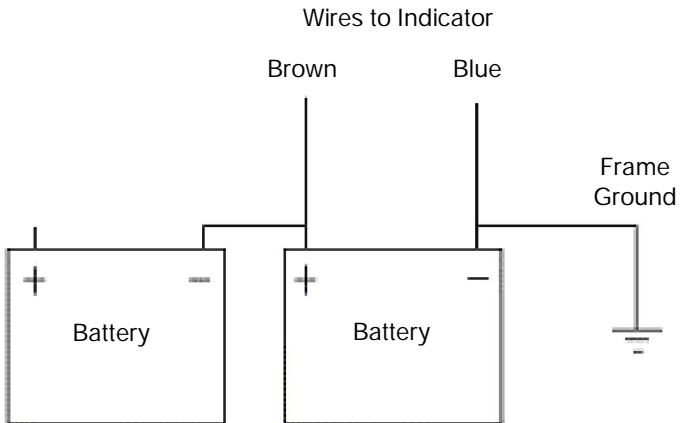
### 4.4 Connecting the ICP300 Printer

**Important:** Verify scale indicator, printer, and other power source connections prior to installation on 24 volt tractors and equipment. All ground connections must be at 0V frame ground potential.

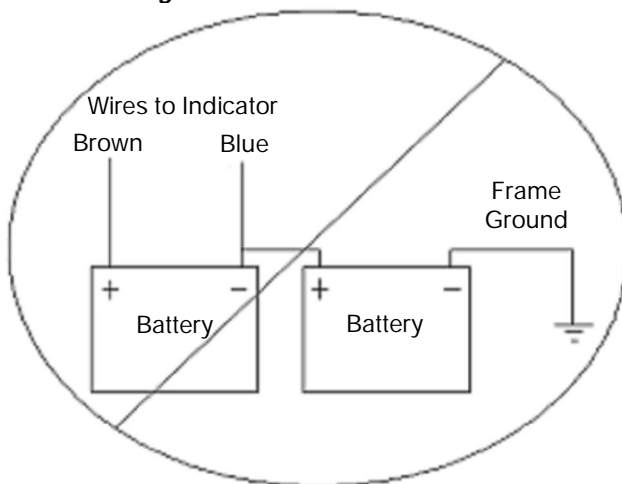
For 24 volt power systems, the scale indicator power connections must come from the 12 volt battery connected to the frame ground as shown below.

*Incorrect wiring may result in damage to your printer, cabling, or scale indicator.*

#### 24V System - Correct Wiring



**24V System - Incorrect Wiring**



1. Install paper into printer.
2. Connect power cable; Brown wire to +10 to +35V, Blue wire to - / Frame Ground.
3. Connect black AMP connector to the serial port of scale indicator ("Serial", "J904", or "J905").
4. Connect phone style connector to base of printer.
5. Press "**PRINT**" key on scale indicator several times to verify correct print out.

Refer to Scale Indicator Operation Manual, D3739 rev D Technical Manual, or D3648 Serial Commands Manual to set and select different print formats as needed.

## 5. Parts List

<b>Kit Ref:</b>	<b>Part No</b>	<b>Description</b>	<b>Qty</b>
P/ICP300/WIZ	S/HU/167-4-001	ICP 300 Printer	1
P/ICP300/PS	S/FSNR/940117	M6 x 16 Hex Set Screw	2
P/ICP300/DS	S/FSNR/406	M6 Nut	2
	S/FSNR/940205	M6 Washer	2
	S/CBL/TIE/001	Cable Tie	25
	S/AC/167-3-030	Paper Roll	2
	S/DC/500-10-570	Instruction Manual	1
<i>plus:</i>			
P/ICP300/WIZ	S/CB/167-4-005	Printer Cable - Wizard	1
	S/DC/500-10-013	Warranty Card - Industrial	1
	S/DC/500-10-014	Warranty Card - Agricultural	1
	S/DC/500-10-015	Warranty Registration card	1
P/ICP300/PS	S/CB/167-4-006	Printer Cable - Pro-Series/PSi	1
	S/AC/268-1-078	9-way 'D' Connector Clamp	1
	S/DC/500-10-013	Warranty Card - Industrial	1
	S/DC/500-10-015	Warranty Registration card	1
P/ICP300/DS	S/CB/167-4-007	Printer Cable - Digi-Star	1
	S/DC/500-10-014	Warranty Card - Agricultural	1

## **6. Specifications**

### **Printing**

Printing System	Direct Thermal line head
Characters per line	48
Character matrix	24 x 8
Horizontal dot pitch	0.125mm (200 dpi)
Vertical Dot pitch	0.125mm
Printing width	48mm
Max. print speed	10 lines per second
MTBF	Approx. 10 <sup>7</sup> lines (20°C, print ratio 25%)

### **Power**

Voltage	External 10 – 35 V dc
Operating Current	From 1A @ 35V to 2.7A @ 10V
Standby	30 mA

### **Paper**

Paper roll	58mm x 44mm dia
Paper specification	TF50-KS-E2D (recommended)

### **I/O**

Interface	RS232C
Connector	6-way RJ-12 socket
Baud rate	4800
Parity	None
Data Bits	8
Stop Bits	1
Handshake	Hardware (CTS)
Buffer	5 Kbyte
Character set	ASCII

### **Environmental**

Operating	0°C to +50°C
Storage	-20°C to +60°C
Dimensions	85.5mm x 150mm x 55mm (excluding bracket)
Weight	0.4 kg (excluding bracket)

*ICP 300 IN-CAB PRINTER*

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Issue 1:	17/7/07	Original issue
Issue 1.01:	11/8/08	Ref. p.3 Parts List
Issue 2.0:	15.8.13	General revision including Digi-Star variant