



## The Company

We are an established world force in the design and manufacture of instrumentation for industrial process control, flow measurement, gas and liquid analysis and environmental applications.

As a part of ABB, a world leader in process automation technology, we offer customers application expertise, service and support worldwide.

We are committed to teamwork, high quality manufacturing, advanced technology and unrivalled service and support.

The quality, accuracy and performance of the Company's products result from over 100 years experience, combined with a continuous program of innovative design and development to incorporate the latest technology.

The UKAS Calibration Laboratory No. 0255 is just one of the ten flow calibration plants operated by the Company, and is indicative of our dedication to quality and accuracy.

BS EN ISO 9001:2000



Cert. No. Q5907

EN 29001 (ISO 9001)



Lenno, Italy – Cert. No. 9/90A

## Electrical Safety

This equipment complies with the requirements of CEI/IEC 61010-1:2001-2 "Safety requirements for electrical equipment for measurement, control, and laboratory use". If the instrument is used in a manner NOT specified by the Company, the protection provided by the instrument may be impaired.

## Symbols

One or more of the following symbols may appear on the equipment labelling:

	<b>Warning</b> – Refer to the manual for instructions
	<b>Caution</b> – Risk of electric shock
	Protective earth (ground) terminal
	Earth (ground) terminal

	Direct current supply only
	Alternating current supply only
	Both direct and alternating current supply
	The equipment is protected through double insulation

Information in this manual is intended only to assist our customers in the efficient operation of our equipment. Use of this manual for any other purpose is specifically prohibited and its contents are not to be reproduced in full or part without prior approval of the Technical Communications Department.

### Health and Safety

To ensure that our products are safe and without risk to health, the following points must be noted:

1. The relevant sections of these instructions must be read carefully before proceeding.
2. Warning labels on containers and packages must be observed.
3. Installation, operation, maintenance and servicing must only be carried out by suitably trained personnel and in accordance with the information given.
4. Normal safety precautions must be taken to avoid the possibility of an accident occurring when operating in conditions of high pressure and/or temperature.
5. Chemicals must be stored away from heat, protected from temperature extremes and powders kept dry. Normal safe handling procedures must be used.
6. When disposing of chemicals ensure that no two chemicals are mixed.

Safety advice concerning the use of the equipment described in this manual or any relevant hazard data sheets (where applicable) may be obtained from the Company address on the back cover, together with servicing and spares information.

---

## CONTENTS

---

Contents	Page
<b>1 INTRODUCTION .....</b>	<b>1</b>
<b>2 INSTALLATION .....</b>	<b>2</b>
2.1. Unpacking .....	2
2.1.1 Checking the Code Number	2
2.1.2 Cleaning the Displays .....	2
2.2 Mechanical Installation .....	2
2.2.1 Mounting .....	2
2.3 Electrical Installation .....	4
<b>3 CONTROLS AND DISPLAYS .....</b>	<b>5</b>
3.1 Displays .....	5
3.2 Switch Familiarization .....	5
3.3 Rapid Reset/Escape .....	5
.....	
<b>4 OPERATION .....</b>	<b>7</b>
4.1 Startup .....	7
4.2 Operation .....	7
4.3 Remote Programming .....	7

---

## 1 INTRODUCTION

---

This manual provides installation details of the Panel Mounted Remote Keypad and Display Unit, and its connection to the MagMaster system.

## 2 INSTALLATION

### 2.1 Unpacking

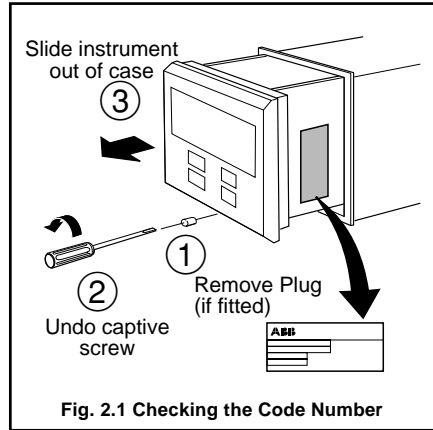
Unpack and visually inspect the display unit. Save packing materials for any re-shipment, or to support any claim of shipment damage. All damage claims are made against the carrier and are the responsibility of the customer.

#### 2.1.1 Checking the Code Number – Fig. 2.1

A configuration label on the side of the instrument identifies the as-shipped configuration of the display unit.

#### 2.1.2 Cleaning the Displays

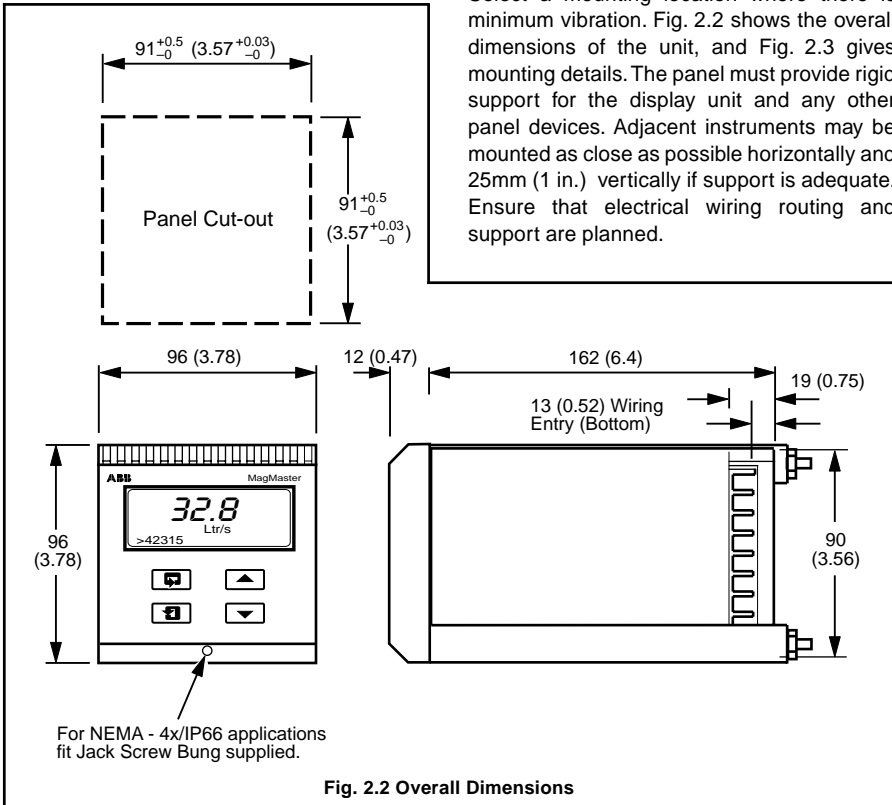
The face of the displays, while made of scratch-resistant plastic, can be abraded by harsh materials such as paper towels and industrial wipes. Lens cleaning tissues and soft cloths are suitable for cleaning displays.

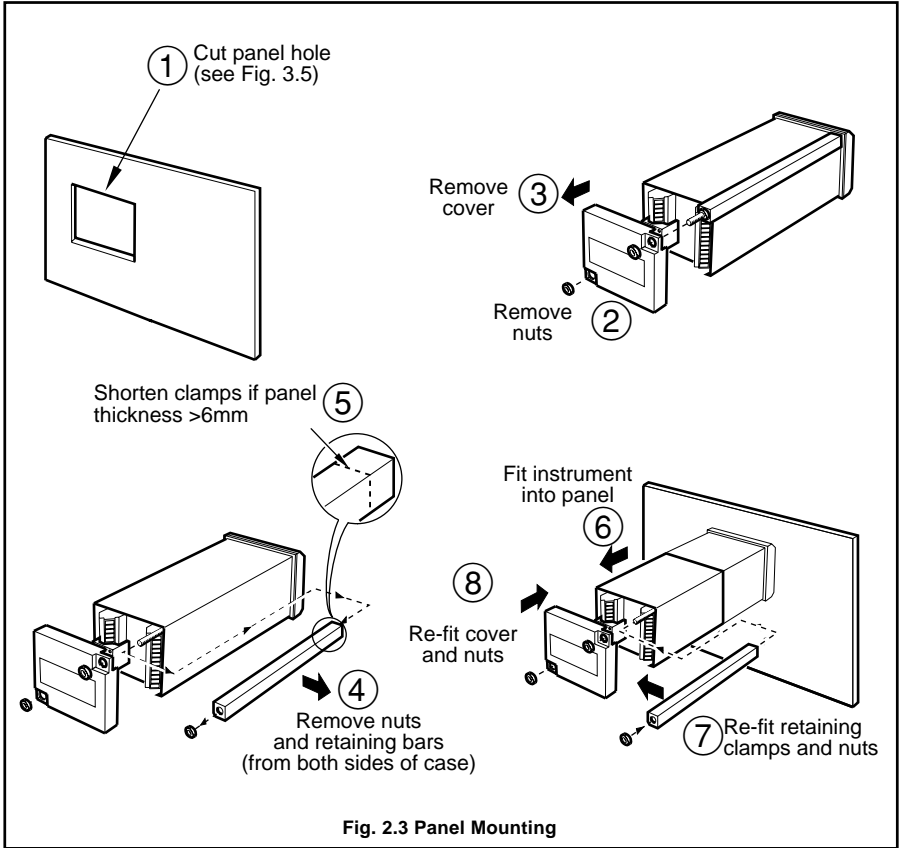


### 2.2 Mechanical Installation

#### 2.2.1 Mounting – Fig. 2.2 and 2.3

Select a mounting location where there is minimum vibration. Fig. 2.2 shows the overall dimensions of the unit, and Fig. 2.3 gives mounting details. The panel must provide rigid support for the display unit and any other panel devices. Adjacent instruments may be mounted as close as possible horizontally and 25mm (1 in.) vertically if support is adequate. Ensure that electrical wiring routing and support are planned.





**Caution.** If the controller is to be sited in an area where NEMA - 4x/IP 66 is required, fit the Jack Screw Bung supplied in the accessory kit into the jack screw recess – see Fig. 2.1.

2.3 Electrical Installation

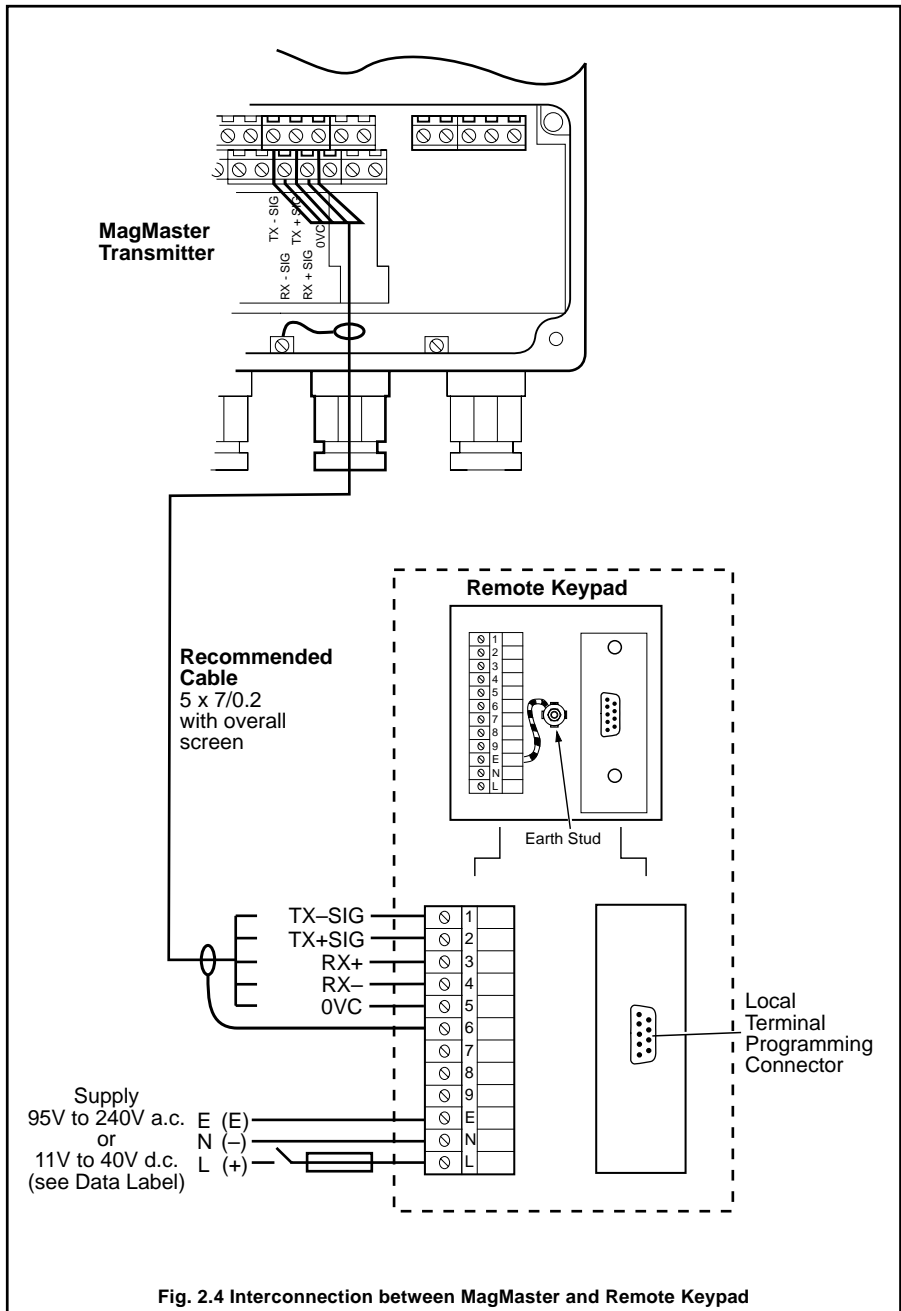
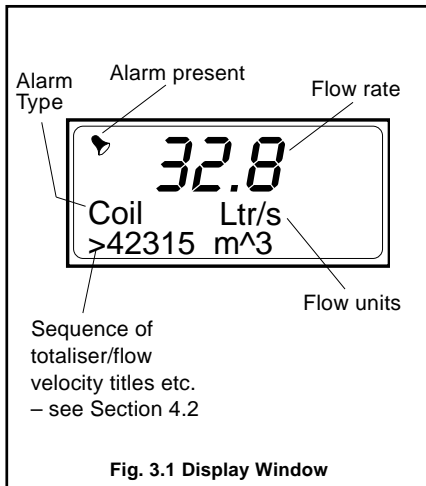


Fig. 2.4 Interconnection between MagMaster and Remote Keypad

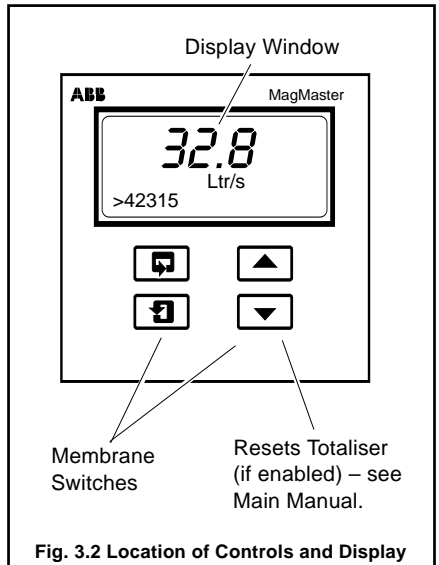
#### 3.1 Displays – Fig. 3.1

The display comprises a 5-digit, 7-segment digital upper display line and two 16-character dot-matrix lower display lines. The upper display shows the flow value. The middle display line shows alarm codes on the left, when an alarm is present, and flow units in the centre – see **Book 5 Fault Finding** in the main Instruction Manual.

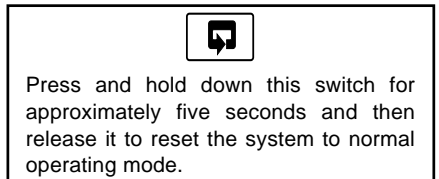
The lower display line shows user information – see **Section 4 OPERATION**.



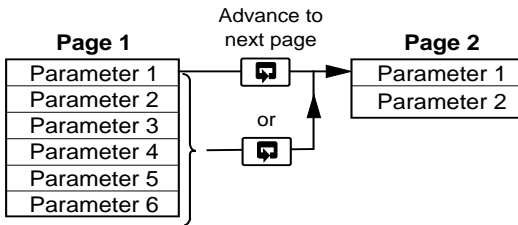
#### 3.2 Switch Familiarization – Fig. 3.2



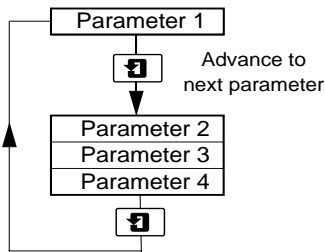
#### 3.3 Rapid Reset/Escape



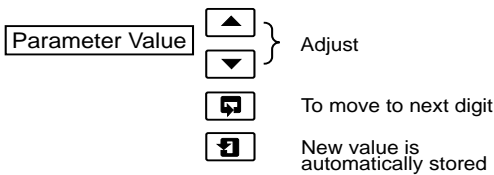
**A – Advancing to Next Page**



**B – Moving Between Parameters**



**C – Adjusting and Storing a Parameter Value**



**D – Selecting and Storing a Parameter Choice**

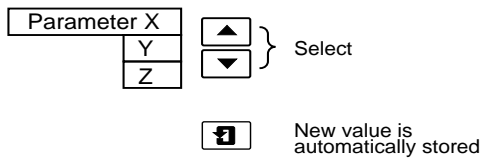


Fig. 3.3 Membrane Switch functions

4.1 Startup

Ensure all necessary electrical connections have been made and switch on the power supply to the flowmeter.

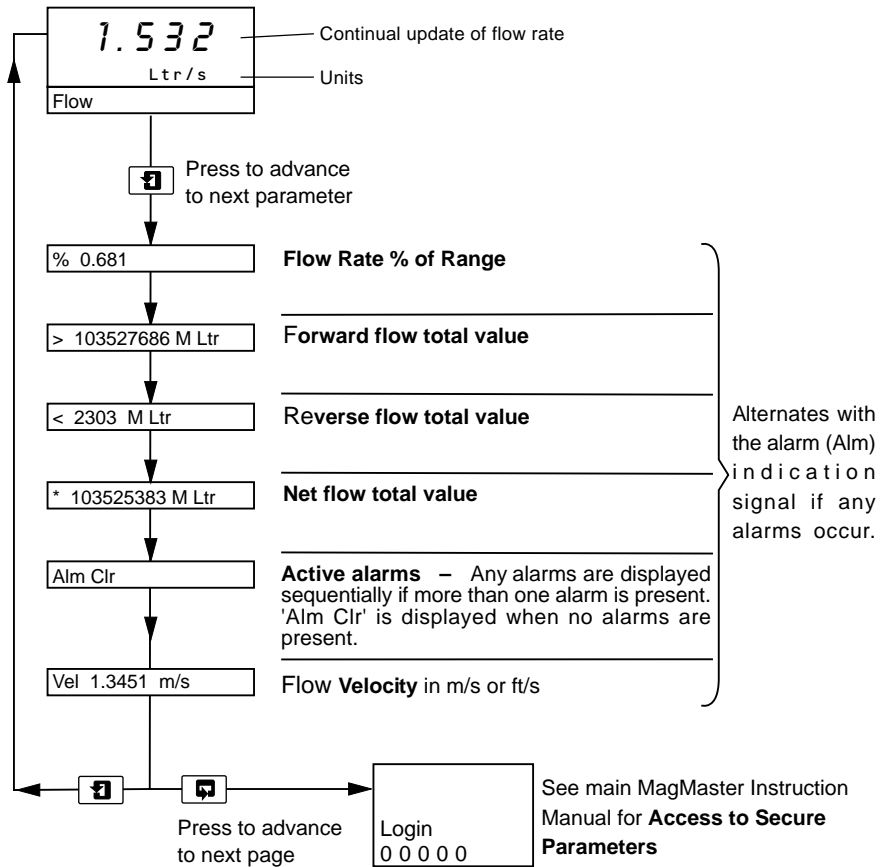
After a short delay, the bottom line of the display alternates between 'ABB Kent-Taylor' and 'MagMaster V x.x' (MagMaster software version).

In a few seconds the flow rate is displayed together with the flow rate units.

4.2 Operation

Viewing User Information (Read Only).

For instructions on how to use the programming features – see the main MagMaster Instruction Manual, **Book 7 Keypad Version**.



4.3 Remote Programming

The 9-pin 'D' Type connector located on the back of the case permits programming from a local terminal, such as a Lap Top Computer or Psion Organiser. For details on programming from a local terminal, see the MagMaster Instruction Manual (Book 4).



# PRODUCTS & CUSTOMER SUPPORT

## Products

### Automation Systems

- *for the following industries:*
  - Chemical & Pharmaceutical
  - Food & Beverage
  - Manufacturing
  - Metals and Minerals
  - Oil, Gas & Petrochemical
  - Pulp and Paper

### Drives and Motors

- *AC and DC Drives, AC and DC Machines, AC motors to 1kV*
- *Drive systems*
- *Force Measurement*
- *Servo Drives*

### Controllers & Recorders

- *Single and Multi-loop Controllers*
- *Circular Chart and Strip Chart Recorders*
- *Paperless Recorders*
- *Process Indicators*

### Flexible Automation

- *Industrial Robots and Robot Systems*

### Flow Measurement

- *Magnetic Flowmeters*
- *Mass Flow Meters*
- *Turbine Flowmeters*
- *Flow Elements*

### Marine Systems & Turbochargers

- *Electrical Systems*
- *Marine Equipment*
- *Offshore Retrofit and Refurbishment*

### Process Analytics

- *Process Gas Analysis*
- *Systems Integration*

### Transmitters

- *Pressure*
- *Temperature*
- *Level*
- *Interface Modules*

### Valves, Actuators and Positioners

- *Control Valves*
- *Actuators*
- *Positioners*

### Water, Gas & Industrial Analytics

#### Instrumentation

- *pH, conductivity, and dissolved oxygen transmitters and sensors*
- *ammonia, nitrate, phosphate, silica, sodium, chloride, fluoride, dissolved oxygen and hydrazine analyzers.*
- *Zirconia oxygen analyzers, katharometers, hydrogen purity and purge-gas monitors, thermal conductivity.*

## Customer Support

We provide a comprehensive after sales service via a Worldwide Service Organization. Contact one of the following offices for details on your nearest Service and Repair Centre.

### United Kingdom

ABB Limited  
Tel: +44 (0)1453 826661  
Fax: +44 (0)1453 829671

### United States of America

ABB Inc.  
Instrumentation Division  
Tel: 215 674 6000  
Fax: 215 674 7183

### Client Warranty

Prior to installation, the equipment referred to in this manual must be stored in a clean, dry environment, in accordance with the Company's published specification.

Periodic checks must be made on the equipment's condition. In the event of a failure under warranty, the following documentation must be provided as substantiation:

1. A listing evidencing process operation and alarm logs at time of failure.
2. Copies of all storage, installation, operating and maintenance records relating to the alleged faulty unit.

---

**ABB** has Sales & Customer Support expertise  
in over 100 countries worldwide

[www.abb.com](http://www.abb.com)

The Company's policy is one of continuous product improvement  
and the right is reserved to modify the information contained  
herein without notice.

Printed in UK (11.04)

© ABB 2004



**ABB Limited**

Oldends Lane, Stonehouse  
Gloucestershire  
GL10 3TA  
UK  
Tel: +44 (0)1453 826661  
Fax: +44 (0)1453 829671

**ABB Inc.**

125 E. County Line Road  
Warminster  
PA 18974  
USA  
Tel: +1 215 674 6000  
Fax: +1 215-674 7183