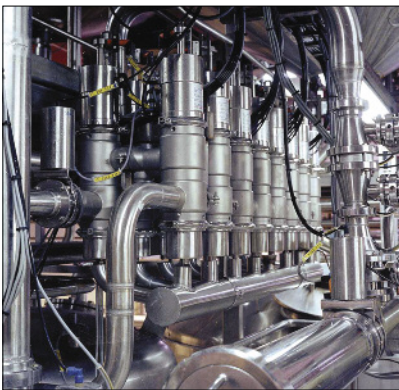


# KEYSTONE

The F784 control head is a plug-in automated valve interface device (AVID), allowing direct connection to both digital hard wired and networked PLC control systems.

## Features

- 12-30 VDC/AC or Bus specific voltages.
- World recognized Bus protocols.
- Keystone technology.
- Modular design.
- 5/2 Solenoid or 3 x 3/2 Solenoids.
- Up to 4 limit switches/sensor inputs depending on version.
- Two wire auxiliary switch input also available.
- Quick snap on fit switch mounting.
- Fully adjustable limit switches through 10-100mm stroke.
- Plug-in control module, switches and solenoids.
- Linear and rotary configuration.
- Robust IP67 enclosure.
- Enclosure safety vent.
- High visibility external valve status LED indicators.
- Indication configurable for extend or retract operation.
- Low power consumption.
- Built in short circuit protection.

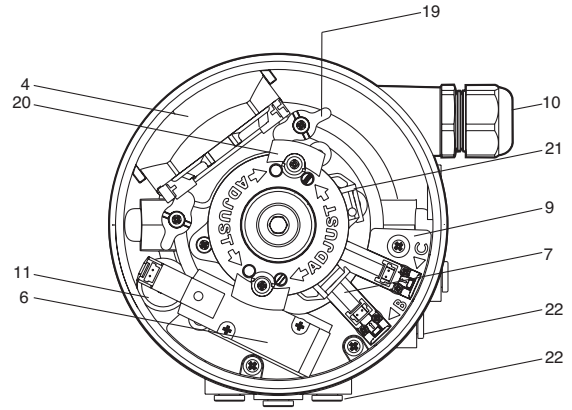
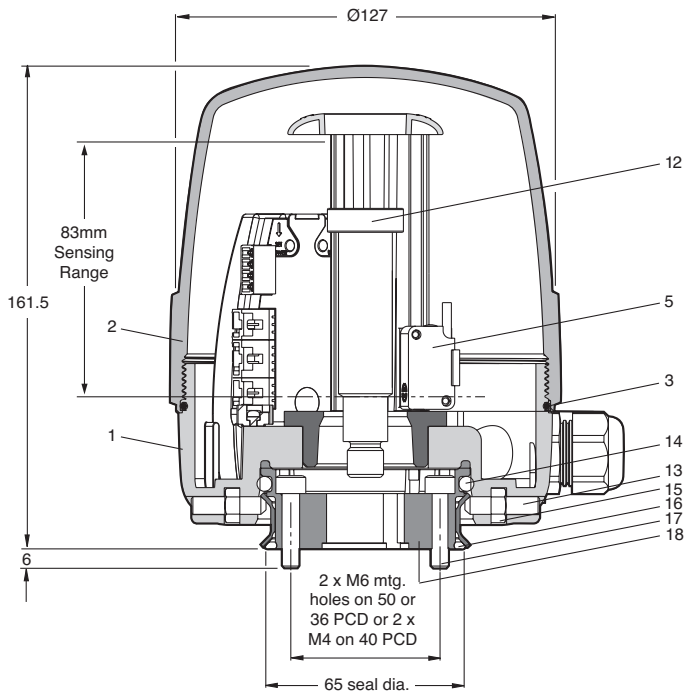


## General Applications

- Brewery
- Dairy
- Winery
- Cannery
- Food processing
- Pharmaceutical
- Chemical
- Beverage

# Keystone Hygienic Products – Figure 784 Mastermind AVID

For Digital Hard Wired and BUS Control Interfaces



## Parts List

No.	Description	Material
1	Control head base	GF NYLON
2	Control head cap	GF NYLON
3	Control head cap O-ring seal	NBR
4	Control module	Various
5	Position sensor (proximity type)	–
6	Main solenoid valve	–
7	Micro solenoid valve	(Option)
8	Pilot valve - not shown	(Option High Flow)
9	Solenoid manifold - not shown	GF NYLON
10	M20 Cable Gland	Polymer
11	Pressure relief valve - not shown	W. Nr. 1.4404 / Santoprene®
12	Sensor target	W. Nr. 1.4404
13	Grub screw M6 x 20	A2
14	Adaptor O-ring seal	NBR
15	Hex nut M6	A2
16	Adaptor gasket seal	Santoprene® or NBR
17	M6 or M4 cap screw	A2
18	Mounting adaptor	GF NYLON
19	Module retaining latches	Polymer
20	Switch tower	Polymer
21	Switch holder	Polymer
22	Air fittings	SS/NPB

**Technical Specifications**



**LED Indication Functions**

1	Green	Power ON
2	Red	BUS status or auxillary input is made (See module specific Tech Sheet)
3	Amber	Main solenoid energized
4	Upper Bi-color	Upper limit switch made (configurable to display Green or Red)
5	Lower Bi-color	Lower limit switch made (configurable to display Green or Red)
6	Upper small Amber	Upper seat lift solenoid energized
7	Lower small Amber	Lower seat lift solenoid energized

**Control Head Housing**

Type	For Linear and Rotary Actuators
Enclosure Rating	IP67
Visual Status Indication	Yes
Impact/Drop Test	IEC 28-2-32
Chemical Resistant	Yes
Safety Vented	Yes
Module	(see Module specific Tech Sheet)

**Proximity Sensor Std.**

Model	IS5092
Type	Inductive
Sensing Range	2 mm

Solenoid	Main		Aux.	
	Mini	Mini	Micro	Mini
Model	SYJ714 with V114 pilot	SYJ5153 with V114 pilot	V114A	SYJ314 with V114 pilot
Type	3/2 (Std)	5/2 with speed controls	3/2 (Std seat lift)	3/2 (Option high flow seat lift)
Supply Voltage	24V DC	24V DC	24V DC	110 V AC
Power Consumption	0.4 Watt	0.4 Watt	1.1 Watt	0.4 Watt
Flow Rate	$C_V = 0.69 - 0.71$	$C_V = 0.19 - 0.21$	$C_V = 0.016$	$C_V = 0.086$
Ambient Temperature	Max 50° C			
Air Pressure	100/700kPa			
Allowable Voltage	±10% rated Voltage			

**Notes**

- When a 5/2 main solenoid is selected, no Aux. solenoids are possible.
- Keystone actuators are factory lubricated and do not need lubricated air. The use of synthetic oils and some mineral oils are known to be damaging to polymer components. Keystone therefore recommends that clean dry air be used.

# Keystone Hygienic Products – Figure 784 Mastermind AVID

For Digital Hard Wired and BUS Control Interfaces

## Typical Specifying Sequence

**Example:** F784 24 DC P M 1S B 2PI CGE M TU

### Figure Number

### Module Voltage/Module Interface

- 24 = 24 Volt (Std)
- 110 = 110 Volt
- AS-I = AS-Interface®
- D-NET = DeviceNet™
- EEXI = Intrinsically Safe components

### Voltage Type (specify for 24V and 110V only)

- AC = AC
- DC = DC (Std)

### Junction Type (only relevant to DC rated heads)

- P = PNP (Std)
- N = NPN

### Interface Connection

- M = Module included (Std)
- T = Terminal block included
- = If blank space filler is used, module is not included.

### Number of Solenoids and Type, e.g. 1S = 1 Solenoid

- A = 5/2
- B = 3/2 (Std)
- X = Blanking plate fitted
- = If blank space filler used, no blanking plate fitted

### Number and Type of Sensors, e.g. 2M = 2 Micro Switches

- A = Air switch
- M = Micro switch
- N = Namur sensor (6-12 VDC input stated at highest input level)
- PI = Prox. IFM
- PS = 11 mm "barrel" Prox c/w 2m cable and stainless steel body
- R = Reed switch

### Electrical Connection, Primary

- AMP = AMPHENOL Plug
- BH4 = 4 Pin M12 Bulk Head
- BH5 = 5 Pin M12 Bulk Head
- BHV = 4 Pin M12 Bulk Head c/w VAMPIRE plug
- CG = Cable Gland Supplied (Define size with a third letter from below list)
  - A = PG7
  - B = PG9
  - C = PG16
  - D = M16
  - E = M20 (Std)
  - F = M25
  - G = PG16 Cable gland c/w cable insert
  - H = M20 c/w 2 cable insert
  - K = PG16 to PG9 Reducer c/w PG9 cable gland
- M20 = Tapped M20 thread only

### Air Connection Style

- M = Metric tubing 6 mm (Std)
- I = Imperial tubing
- X = Air ports blanked

### Accessories or Extended Definer

- Cx = Metric tubing 6 mm (Std)
- FS = Auxiliary
- TB = 8701 Tank bottom configuration
- TU = TURCK cordset 1 mm length

Tyco Flow Control (TFC) provides the information herein in good faith but makes no representation as to its comprehensiveness or accuracy. This data sheet is intended only as a guide to TFC products and services. Individuals using this data sheet must exercise their independent judgment in evaluating product selection and determining product appropriateness for their particular purpose and system requirements. TFC MAKES NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO THE INFORMATION SET FORTH HEREIN OR THE PRODUCT(S) TO WHICH THE INFORMATION REFERS. ACCORDINGLY, TFC WILL NOT BE RESPONSIBLE FOR DAMAGES (OF ANY KIND OR NATURE, INCLUDING INCIDENTAL, DIRECT, INDIRECT, OR CONSEQUENTIAL DAMAGES) RESULTING FROM THE USE OF OR RELIANCE UPON THIS INFORMATION. Patents and Patents Pending in the U.S. and foreign countries. Tyco reserves the right to change product designs and specifications without notice. All registered trademarks are the property of their respective owners. Printed in the USA.