ARTISAN®
TECHNOLOGY GROUP

Your **definitive** source for quality pre-owned equipment.

Artisan Technology Group
(217) 352-9330 | sales@artisantg.com | artisantg.com

Full-service, independent repair center
with experienced engineers and technicians on staff.

We buy your excess, underutilized, and idle equipment
along with credit for buybacks and trade-ins.

Custom engineering
so your equipment works exactly as you specify.

- Critical and expedited services
- In stock / Ready-to-ship
- Leasing / Rentals / Demos
- ITAR-certified secure asset solutions

Expert team | Trust guarantee | 100% satisfaction

All trademarks, brand names, and brands appearing herein are the property of their respective owners.

Find the *Johnson Controls P70AB-2* at our website: *Click HERE*

JOHNSON CONTROLS

P70 Series MICRO-SET™ Pressure Controls for Refrigeration and Air Conditioning, 4-Wire, 2-Circuit Contact Block

Application

P70 single and dual function pressure controls are used in commercial air conditioning and refrigeration applications. The load-carrying contacts provide direct control of A.C. motors within the control's rating. (See cover label for the electrical rating.)

The controls can be used with R-12, R-22, R-500, or R-502 refrigerants. Specific models for ammonia applications are also available. The MICRO-SET construction of low pressure controls and low side of dual models permits differentials to a minimum of 5 psi (34 kPa).

⚠ WARNING: On ammonia applications, the ammonia P70 pressure control must be mounted separately from the electrical cabinet.

All Series P70 controls are designed for use **only** as operating controls. Where an operating control failure would result in personal injury and/or loss of property, it is the responsibility of the installer to add devices (safety, limit controls) that protect against, or systems (alarm, supervisory systems) that warn of control failure.

Certain models of the Series P70 controls are supplied as pressure limiting devices for refrigeration or conditioning equipment. Contact Control Products Division, Johnson Controls, Inc. for specific model identification for refrigeration pressure limiting applications.

Operation

These controls are available with either main contacts (LINE-M2) CLOSE high - OPEN low, or main contacts (LINE-M2) OPEN high - CLOSE low contact action. The controls have a four-wire, two-circuit contact block that operates from a pressure actuated bellows.

The controls have a single "sight-set" calibrated scale which shows cutout setting and the differential. Adjustments can be made readily without removing the control cover.

Installation

Mounting

Mount the control on a flat surface or panel board by two screws or bolts through the holes in the back of the case. The control should be mounted above the element connections to provide drainage from the sensing elements. The pressure connection on the bellows should be above the liquid level of the equipment on which the control is used. This reduces possible accumulation of foreign matter inside the bellows.

⚠ CAUTION: Do not mount the control in a position where dirt, sediment, or oil will affect the operation of the control.

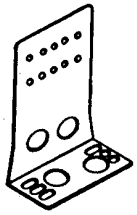


Fig. 2 — Part No. 271-51 standard mounting bracket.

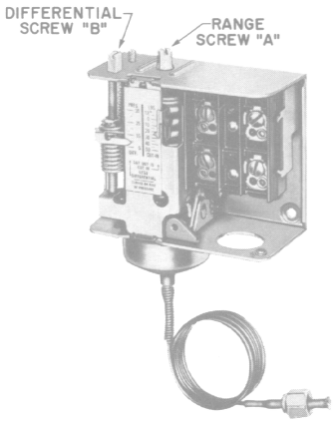


Fig. 1 -- Interior view of MICRO-SET single function pressure control.

Universal mounting bracket No. 271-51 is available, if required. (**Note:** When using any bracket, use only mounting screws supplied with the control to prevent damage to internal components.)

General Instructions

1. Avoid sharp bends or kinks in the capillary tubing.
2. Be sure pressure controls installed on ammonia systems are built for ammonia service.
3. Purge all tubing and lines before connecting pressure controls.
4. Make sure the control is not installed on equipment to handle a load in excess of the switch's electrical rating.
5. Coil and secure excess capillary length to avoid vibration but allow some slack in the capillary to avoid "violin string" vibration which can cause tubing to break. Do not allow tubing to rub against metal

© 1984 Johnson Controls, Inc.
Code No. LIT-121455
Part No. 996-34, Rev. B

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

surfaces where friction can damage capillary.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

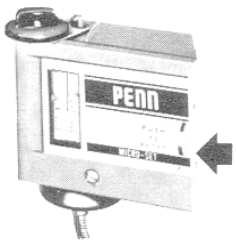


Fig. 3
If manual reset lever is supplied on cutout mechanism of "dual" controls, the lever provides for manual reset after operation of high pressure cutout.



Fig. 4
When the knob is supplied on the differential screw the "Actual Differential Only" is increased or decreased. The knob is provided with a stop on the indicator plate to permit change only within a specified range.

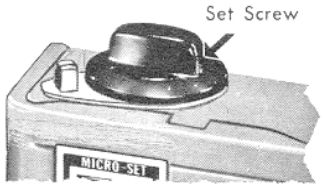


Fig. 5
External adjusting knob may be placed on range screw, as shown, where it is necessary for the user to raise or lower both CUT-IN and CUTOUT settings (differential remains constant). Knob is provided with a stop on the indicator plate to permit adjustments within a specified range.

Note: -- When a knob is supplied it can be assembled in either position as shown in Figs. 4 or 5 above, depending upon installation requirements. The knob may be changed in the field from the differential to the range screw or vice versa by loosening set screw and removing knob and indicator plate and reversing their positions. The spacer must always be under the indicator plate on the same screw as the knob. Assuming that knob is on range screw (Fig. 5) and set to restrict adjustment to 3 psig (21 kPa) adjustment will be restricted to approximately 1 psi (6.9 kPa) if knob is placed on differential screw (Fig. 4).

MAIN CONTACTS (LINE-M2) OPEN ON FALL OR RISE (DEPENDING ON MODEL SELECTED). AUXILIARY CONTACTS (LINE-M1) CLOSE SIMULTANEOUSLY.

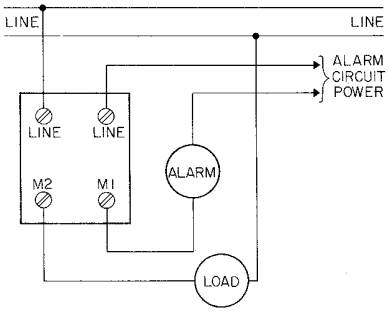


Fig. 6 — Typical wiring diagram.

Wiring

⚠ CAUTION: Disconnect power supply before wiring connections are made to avoid possible electrical shock or damage to equipment.

Make all wiring connections using copper conductors only, and in accordance with the National Electrical Code and local regulations. For maximum electrical rating of the control, see the cover label on the inside of the control cover.

⚠ CAUTION: Use terminal screws furnished in the contact block (8-32 x 1/4 in.). Longer terminal screws can interfere with switch mechanism and damage the switch.

Adjustments (See Fig. 1)

Main Contacts (LINE-M2)
Close High -- Open Low

1. Turn range adjusting screw "A" clockwise to lower the control cut-in setting. (This changes both cut-in and cutout settings an equal amount, differential remains constant.)
2. Turn differential adjusting screw "B" clockwise to increase differential. (Lowers cutout setting.)
3. To determine cutout point subtract differential shown on scale from cut-in setting.

Main Contacts (LINE-M2)
Open High -- Close Low

1. Turn range adjusting screw "A" clockwise to lower cutout setting. (This changes both cutout and cut-in settings an equal amount, differential remains constant.)
2. Turn differential adjusting screw "B" clockwise to increase differential. (Lowers the cut-in setting.)

Range and Differentials (psig)

	Scale Range (psig)	Overall Range (psig)	Differential (psi)		Maximum Overrun Pressure (psig)
			Min.	Max.	
Low Side	12" Hg. Vac. to 50	20" Hg. Vac. to 50	5	35	500
High Side (Duals Only)	100 to 425	100 to 425	Up to 300; 55 Over 300; 65 (Fixed)		475

Range and Differentials (kPa)

	Scale Range (kPa)	Overall Range (kPa)	Differential (kPa)		Maximum Overrun Pressure (kPa)
			Min.	Max.	
Low Side	—40 to 345	—68 to 345	34	241	3448
High Side (Dual Only)	690 to 2930	690 to 2930	Up to 2069; 379 Over 2069; 448		3275

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Dual Function Controls

1. Adjust low side same as “Close High -- Open Low” instructions.
2. Turn adjusting screw to change the high pressure cutout. The high side differential is factory set and cannot be field adjusted.

Checkout Procedure

The operating point(s) of the control should be confirmed by an accurate pressure gauge.

Before leaving the installation, observe at least three complete operating cycles to be sure that all components are functioning correctly.

Repairs and Replacement

Field repairs must not be made except for replacement of the cover or knob. For a replacement control, cover, or knob, contact the nearest Johnson Controls wholesaler.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Notes

JOHNSON CONTROLS

Controls Group
507 E. Michigan Street
P.O. Box 423
Milwaukee, WI 53202

Printed in U.S.A.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Artisan Technology Group is an independent supplier of quality pre-owned equipment

Gold-standard solutions

Extend the life of your critical industrial, commercial, and military systems with our superior service and support.

We buy equipment

Planning to upgrade your current equipment? Have surplus equipment taking up shelf space? We'll give it a new home.

Learn more!

Visit us at **artisantg.com** for more info on price quotes, drivers, technical specifications, manuals, and documentation.

Artisan Scientific Corporation dba Artisan Technology Group is not an affiliate, representative, or authorized distributor for any manufacturer listed herein.

We're here to make your life easier. How can we help you today?

(217) 352-9330 | sales@artisantg.com | artisantg.com

ARTISAN® TECHNOLOGY GROUP