



FOR INDUSTRY PROFESSIONALS



AIR CONDITIONING HARD STARTS

YOUR HARD START SOURCE.

INCREASE STARTING TORQUE UP TO 500% WITH AN ECONOMIC SOLUTION.

- ✔ Field proven reliability
- ✔ Easy two-wire installation
- ✔ NATE® recognized
- ✔ UL® approved
- ✔ Can be used on PSC type compressors

Technical Specifications

TP-5

Torque: 300%
 Capacitor size (µF): 43 to 53 MFD
 Recommended Range (hp): 1/2 - 10 hp
 Operating Voltage VAC: 90 to 277 VAC

TP-6

Torque: 500%
 Capacitor size (µF): 130 to 156 MFD
 Recommended Range (hp): 1/2 - 10 hp
 Operating Voltage VAC: 90 to 277 VAC

2-WIRE

Positive Temperature Coefficient (PTC) Technology

TRADEPRO P/N	INCREASE IN TORQUE
TP-5	300%
TP-6	500%



AC HARD STARTS CROSS REFERENCE GUIDE

2-WIRE

Positive Temperature Coefficient (PTC) Technology

TRADEPRO P/N	Packard®	Diversitech®	Mars®
TP-5	HS5	DST-5	32702
TP-6	HS6	DST-6	32701

Packard®, Diversitech®, and Mars® are trademarks of their respective owners. Reasonable effort has been made to assure the accuracy of cross-reference information. However, final evaluation for suitable replacement is the responsibility of the installer.



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2-WIRE HARD STARTS

Features and Benefits

- ✔ Instant re-start
- ✔ Voltage Sensing
- ✔ Easy two-wire installation
- ✔ NATE® recognized
- ✔ UL® recognized
- ✔ Can be used on PSC and CSIR type compressors

Technical Specifications

TP-2W1

Mechanical Potential Relay (MPR) and Start Capacitor, for use on 1 to 3 HP units

TRADEPRO P/N	TP-2W1
Capacitor MFD μ F:	270-324
Cubic Measurement:	0.0242
Cycle/Hertz:	50/60 Hz
Phase:	Single
Voltage:	208-265 VAC



TP-2W2

Mechanical Potential Relay (MPR) and Start Capacitor, for use on 3.5 to 5 HP units

TRADEPRO P/N	TP-2W2
Capacitor MFD μ F:	270-324
Cubic Measurement:	0.0242
Cycle/Hertz:	50/60 Hz
Phase:	Single
Voltage:	208-265 VAC





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3-WIRE HARD STARTS

Features and Benefits

The 3-Series hard starts provide the service professional with an OEM option when the application calls for a hard start. Combining a potential relay and start capacitor the 3 series provides a TRUE 3 wire solution.

- ✔ Instant re-start
- ✔ Voltage Sensing
- ✔ True 3-wire solution
- ✔ NATE® recognized
- ✔ UL® recognized
- ✔ Includes EZ snap bracket for quick installation

Technical Specifications

TP-3W1

Mechanical Potential Relay (MPR) and Start Capacitor, 88-108 MFD, 1 to 3 HP, 208-277 VAC

TRADEPRO P/N	TP-3W1
Capacitor MFD μ F:	88-108
Cubic Measurement:	0.0183
Cycle/Hertz:	50/60 Hz
Phase:	Single
Voltage:	208-277 VAC



TP-3W2

Mechanical Potential Relay (MPR) and Start Capacitor, 189-227 MFD, 3.5 to 5 HP, 208-277 VAC

TRADEPRO P/N	TP-3W2
Capacitor MFD μ F:	189-227
Cubic Measurement:	0.0212
Cycle/Hertz:	50/60 Hz
Phase:	Single
Voltage:	208-240 VAC



TP-3W3

Mechanical Potential Relay (MPR) and Start Capacitor, 270-324 MFD, 4 to 5 HP, 208-277 VAC

TRADEPRO P/N	TP-3W3
Capacitor MFD μ F:	270-324
Cubic Measurement:	0.0288
Cycle/Hertz:	50/60 Hz
Phase:	Single
Voltage:	208-240 VAC





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HARD STARTS CROSS REFERENCE GUIDE

TRADEPRO®	SUPCO®	MARS®	CPS® (5-2-1)	PACKARD®	DIVERSITECH®
TP5	SPP5	32701	-	-	DST5
TP6	SPP6	32707	-	-	DST6
TP-2W1	SPR5	32713	-	-	HSK5
TP-2W2	SPR1	32714	-	-	HSK1
TP-3W1	3W1	32715	CSR U1	TQS1	-
TP-3W2	3W2	32716	CSR U2	TQS2	-
TP-3W3	3W3	32717	CSR U3	-	-

Part numbers are intended solely for identification, items offered are not represented to be manufactured by the company that built the original equipment.



FOR INDUSTRY PROFESSIONALS



PRESSURE SWITCHES

HIGH PRECISION. ECONOMICAL PRICES.

- Small size and lightweight for direct mounting.
- Encapsulated, non-adjustable, SPST direct mount switches
- Models available with automatic reset in open low and open high configurations
- Models available with manual reset with open high switching.
- Use with HFC, HCFC and CFC refrigerants
- Can also be used as operating controls in applications such as a low ambient condenser fan controls



Snap action stainless steel hermetically sealed sensor (SHP, SLP & SFC)



Excellent set point repeatability and stability



Applications include:
-Refrigeration systems
-Air conditioning systems
-Heat pump systems

Technical Specifications

Pressure Switch Ratings

Life Cycles @ RLA 100,000 Average
Maximum LRA 36 Amps

Volts

12 to 28 VDC / VAC
48 VDC / VAC
110 to 120 VAC
208 to 240 VAC

Temperatures

Ambient
Fluid

Pressure Ranges

Working
Bursting

Connection:
Wire Leads:

Maximum RLA

10 Amps
5 Amps
5.8 Amps
2.9 Amps

Temperatures

-20°F to 176°F (-30°C to 80°C)
-60°F to 250°F (-50°C to 120°C)

Pressure Ranges

0 to 650 PSI
5,000 PSI

1/4" SAE Female Flare With Valve Core Depressor
UL1015 18 AWG / 18" Length



Low Pressure Open on Pressure Drop

TRADEPRO P/N	OPEN PSI (CUT-OUT)	CLOSE PSI (CUT-IN)	TOLERANCE +/-PSI
TP-LP0520	5	20	5
TP-LP1025	10	25	5
TP-LP1535	15	35	5
TP-LP2550	25	50	5
TP-LP2565	25	65	5
TP-LP2580	25	80	5
TP-LP4080	40	80	5
TP-LP5090	50	90	5

High Pressure Open on Pressure Rise

TRADEPRO P/N	OPEN PSI (CUT-OUT)	CLOSE PSI (CUT-IN)	TOLERANCE +/-PSI
TP-HP350250	350	250	15
TP-HP375265	375	265	15
TP-HP400300	400	300	15
TP-HP425300	425	300	15
TP-HP600475	600	475	15
TP-HP610420	610	420	15
TP-HP665565	665	565	15

Manual Reset High Pressure Open on Pressure Rise

TRADEPRO P/N	OPEN PSI (CUT-OUT)	CLOSE PSI (CUT-IN)	TOLERANCE +/-PSI
TP-MR410	410	MANUAL	15

Fan Cycle Close On Pressure Rise

TRADEPRO P/N	OPEN PSI (CUT-OUT)	CLOSE PSI (CUT-IN)	TOLERANCE +/-PSI
TP-FC150225	150	225	15
TP-FC170250	170	250	15
TP-FC210275	210	275	15

PRESSURE SWITCH CROSS REFERENCE GUIDE

Low Pressure Open on Pressure Drop

TRADEPRO P/N	Mars®	Johnson Ctrls®	Ranco®	Robertshaw®
TP-LP0520	33329	P100AC1C	MPL7001	3101001
TP-LP1025	333330	P100AP201C	MPL7011	3100050
TP-LP1535	33333	P100AC2	MPL7002	3100050
TP-LP2550	43372	-	MPL7012	MG212033
TP-LP2565	33336, 43347	-	-	3101002
TP-LP2580	33363, 43348	-	MPL7003	3101003, 3100051
TP-LP4080	33364, 43350	-	MPL7014	3101005, 3100052
TP-LP5090	33339, 43374	-	-	-



High Pressure Open on Pressure Rise

TRADEPRO P/N	Mars®	Johnson Ctrls®	Ranco®	Robertshaw®
TP-HP360250	33356, 33316, 43327	-	-	MPH71053101, 3100150
TP-HP375265	33319, 43328	-	MPH7106	3100111
TP-HP400300	33358, 33370	P100CA1C, P100CP1C	MPH7107	3101202, 3100151, MG21-112
TP-HP425300	33325, 43332	-	-	-
TP-HP600475	33361, 43335	-	-	-
TP-HP610420	-	-	-	-
TP-HP665565	-	P100CP85D	-	-



Manual Reset High Pressure Open on Pressure Rise

TRADEPRO P/N	Mars®	Johnson Ctrls®	Ranco®	Robertshaw®
TP-MR410	33365, 43313	P100DA1C	MPH7110	3101301, 3100103



Fan Cycle Close On Pressure Rise

TRADEPRO P/N	Mars®	Johnson Ctrls®	Ranco®	Robertshaw®
TP-FC150225	43304	P100AP3C	MPE7008	-
TP-FC170250	-	P100AP4C	-	-
TP-FC210275	33341	-	MPE7009	3101101, 3100079



Mars®, Johnson Ctrls®, Ranco®, and Robertshaw® are trademarks of their respective owners. Reasonable effort has been made to assure the accuracy of cross-reference information. However, final evaluation for suitable replacement is the responsibility of the installer.



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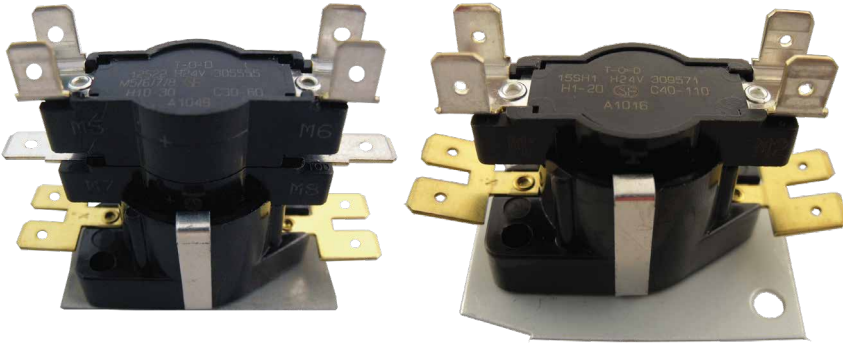
SEQUENCERS

Features and Benefits

Q Series Sequencer, field proven for controlling the operation of heating elements and/or blower motors in electric, gas or oil heat systems.

- ✓ 24 volt control circuit
- ✓ UL® and CSA® approved
- ✓ Five second delay between all subsequent stages, unless they function together

Technical Specifications



TRADEPRO P/N	ON	OFF	TIMING
TP-Q101	1 - 20 Seconds	40 - 110 Seconds	-
TP-Q102	30 - 90 Seconds	1 - 30 Seconds	-
TP-Q103	1 - 20 Seconds	40 - 110 Seconds	Contacts M1-M2 will turn on 1st and turn off last
TP-Q104	30 - 90 Seconds	1 - 30 Seconds	-
TP-Q105	1 - 110 Seconds	1 - 110 Seconds	Contacts M1-M2 will turn on 1st and turn off last
TP-Q106	1 - 110 Seconds	1 - 110 Seconds	Contacts M1-M2 will turn on 1st and turn off last
TP-Q107	1 - 160 Seconds	1 - 160 Seconds	-
TP-Q108	1 - 25 Seconds	65 - 115 Seconds	-
TP-Q109	20 - 50 Seconds	40 - 110 Seconds	Contacts M1-M2 will turn on 1st and turn off last
TP-Q110	10 - 30 Seconds	30 - 60 Seconds	-
TP-Q111	M1 - M2: 10 - 40 Seconds M3 - M4: 10 - 30 Seconds	M1 - M2: 90 - 160 Seconds M3 - M4: 30 - 60 Seconds	-
TP-Q112	M1 - M2: 10 - 30 Seconds M3 - M4: 10 - 30 Seconds M5 - M6: 10 - 30 Seconds	M1 - M2: 90 - 150 Seconds M3 - M4: 30 - 60 Seconds M5 - M6: 30 - 60 Seconds	Contacts M1-M2 will turn on 1st and turn off last
TP-Q113	10 - 30 Seconds	15 - 65 Seconds	Contacts M1-M2 will turn on 1st and turn off last
TP-Q114	-	-	-
TP-Q115	1 - 60 Seconds	1 - 45 Seconds	Contacts M1-M2 will turn on 1st and turn off last
TP-Q116	1 - 60 Seconds	1 - 45 Seconds	-



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SEQUENCERS CROSS REFERENCE GUIDE

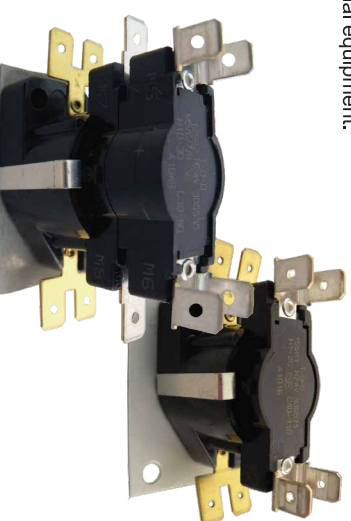
TRADEPRO® P/N	SUPCO®	WHITE-RODGERS®	GEM®	GLOBAL®	MARS®	WATSCO®	KLIXON®	W/R®	ROBERTSHAW®	INTERSTATE ELECTRIC® I-9	ZETTLER®	OEM
TP-Q101	Q101	***	GS101	24CZ-1	33241, 33841	TDR10	6000AONL-98	24A34-1, 24A34-7, 24A34-13	611-241	IES24A34-1	ZC24A34-1	GOODMAN® B1290906, LENNOX® 12F20 & 58C9701, YORK® 525-37322-000
TP-Q102	Q102	24A34 025B1	GS102	24CZ-2	33242, 33842	TDR15	6000AONL-97	24A34-2	611-242	IES24A34-2	ZC24A34-2	CARRIER® 40CF689020
TP-Q103	Q103	***	GS103	24CZ-3	33244, 33844	TDR20	6000AONL-87, 60000EO-102	24A34-3	611-244	IES24A34-3	ZC24A34-3	ICP®/CARRIER® HN67QC005, ICP®/CARRIER® HQ1056789
TP-Q104	Q104	24A34 024B1	GS104	24CZ-4	33245, 33845	TDR25	60000EO49	24A34-4	611-245	IES24A34-4	ZC24A34-4	CARRIER® 40CF689006
TP-Q105	Q105	***	GS105	24CZ-5	33232, 33832	TDR30	51172-32	24A34-5, 24A34-54	611-232	IES24A34-5	ZC24A34-5	YORK® 525-37327-000, ICP®/CARRIER® HN67QC006
TP-Q106	Q106	***	GS106	24CZ-6	33233, 33833	TDR35	51172-33	24A34-6	611-233	IES24A34-6	ZC24A34-6	ICP®/CARRIER® HN67QC008, ICP®/CARRIER® P284-1313
TP-Q107	Q107	***	GS107	24CZ-14	33848		51172-35-1	24A34-14	611-007	IES24A34-14	ZC24A34-14	YORK® 525-37328-000
TP-Q108	Q108	***	GS108	***	***	***	60000CO-27	***	***	***	***	GOODMAN® B13707-38, ICP®/CARRIER® HN67GJ002
TP-Q109	Q109	***	***	***	***	***	***	***	***	***	***	JANITROL® BT1256500
TP-Q110	Q110	24A34 029B1	***	***	***	***	***	***	***	***	***	WEATHERKING® 4223115608
TP-Q111	Q111	***	***	***	***	***	***	***	***	***	***	WEATHERKING® 4223115606
TP-Q112	Q112	***	***	***	***	***	***	***	***	***	***	WEATHERKING® 4223115807
TP-Q113	Q113	24A34 022B1	***	***	33265	***	6000E4-40	***	***	***	***	***
TP-Q114	Q114	***	***	***	***	***	***	***	***	***	***	***
TP-Q115	Q115	***	***	***	33246	***	6000EOM	24A52-1	***	***	***	COLEMAN® 7670-307, 7670-308, 7670-130, 7670-913, 7670-101
TP-Q116	Q116	***	***	***	33243	***	6000AOM	24A51-1	***	***	***	COLEMAN® 3120A3771
												COLEMAN® 3110-354

Note all sequencers have a 24 volt heater, except for the Q113 which has a 240 volt heater.

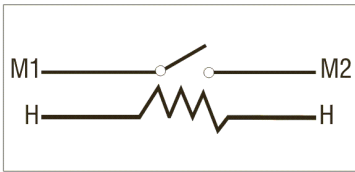
Part numbers are intended solely for identification, items offered are not represented to be manufactured by the company that built the original equipment.

Single load contact ratings (all models):

VAC	Resistive load ratings (non-inductive)		Motor load ratings (non-inductive)		Pilot duty
	Watts	Amps	Full Load (FLA)	Locked Rotor (LRA)	
120	3000	25 A	14 A	72 A	125 VA
240	6000	25 A	7 A	42 A	125 VA
480	6000	12.5 A	***	***	480 VA

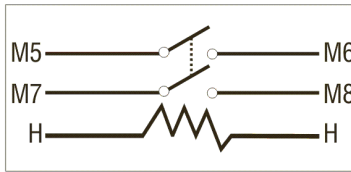


TP-Q101, TP-Q109, TP-Q116



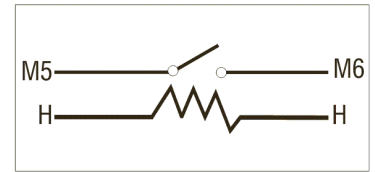
- Q101 OFF 40-110 Sec.
- ON 1-20 Sec.
- Q109 OFF 40-110 Sec.
- ON 20-50 Sec.
- Q116 OFF 1-45 Sec.
- ON 1-60 Sec.

TP-Q104, TP-Q110



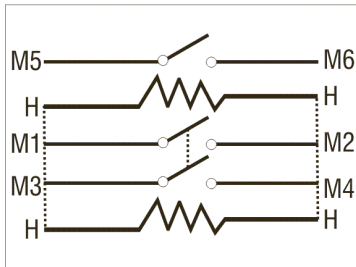
- Q104 OFF 1-30 Sec.
- ON 30-90 Sec.
- Q110 OFF 30-60 Sec.
- ON 10-30 Sec.

TP-Q102



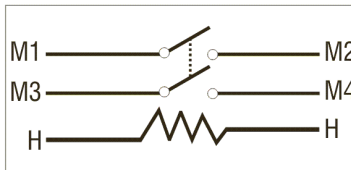
- OFF 1-30 Sec.
- ON 30-90 Sec.

TP-Q105



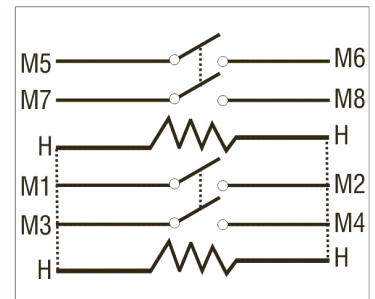
- OFF 1-110 Sec.
- ON 1-110 Sec.

TP-Q103, TP-Q113



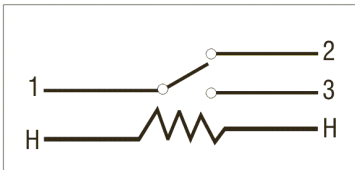
- Q103 OFF 40-110 Sec.
- ON 1-20 Sec.
- *Q113 OFF 15-65 Sec.
- ON 30-10 Sec.
- *Q113 Has 240 Volt Heater

TP-Q106



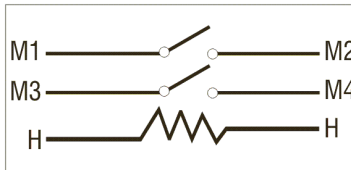
- OFF 1-110 Sec.
- ON 1-110 Sec.

TP-Q108



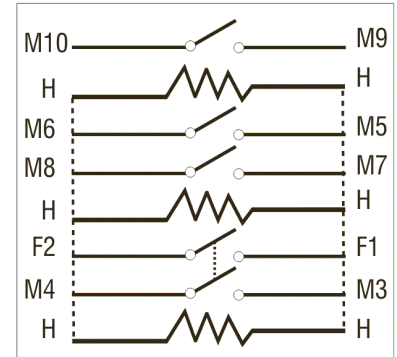
- OFF 65-115 Sec.
- ON 1-25 Sec.

TP-Q111



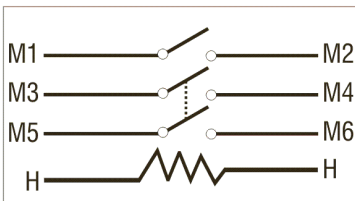
- OFF M1-M2 90-160 Sec.
- ON M1-M2 10-40 Sec.
- OFF M3-M4 30-60 Sec.
- ON M3-M4 10-30 Sec.

TP-Q107



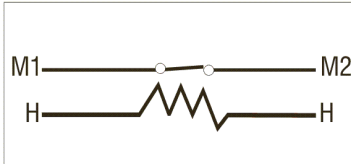
- OFF 1-160 Sec.
- ON 1-160 Sec.

TP-Q112



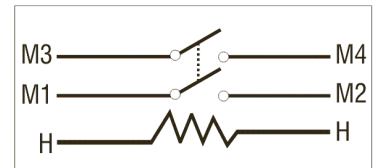
- OFF M1-M2 90-150 Sec.
- ON M1-M2 10-30 Sec.
- OFF M3-M4 30-60 Sec.
- ON M3-M4 10-30 Sec.
- OFF M5-M6 30-60 Sec.
- ON M5-M6 10-30 Sec.

TP-Q114



- OFF 15-25 Sec.
- ON 15-45 Sec.

TP-Q115



- OFF 1-45 Sec.
- ON 1-60 Sec.

*Note all Sequencers include a 24 volt heater except the Q113 which has a 240 volt heater.



FOR INDUSTRY PROFESSIONALS



HEAT PUMP & LIQUID LINE FILTER DRIERS

YOUR SOURCE FOR QUALITY FILTER DRIERS.

- ✔ Compatible with all refrigerants (including R290)

✔ Copeland® approved for POE oils

✔ Shock resistant steel construction
- ✔ Corrosion resistant epoxy powder paint finish

✔ High moisture and acid removal

✔ Solid copper fittings

Technical Specifications

TRADEPRO® P/N	TP-163S
Filtration:	40 microns
Maximum working pressure:	600 PSIG
Composition	Steel
Connection Type	ODF
Cubic Measurement	0.0304
Diameter	2.5"
Dimensional Weight	1
Inlet Connection Size	3/8"
Line Drier Cubic Inch Size	16 Cubic Inch
Line Drier Type	Liquid Line Bi-Flo
Outlet Connection Size	3/8"
Overall Length	16 cubic in.



TRADEPRO P/N	TP-083S
Filtration:	40 microns
Maximum working pressure:	600 PSIG
Composition	Steel
Connection Type	ODF
Cubic Measurement	0.0271
Diameter	2.5"
Dimensional Weight	1
Inlet Connection Size	3/8"
Line Drier Cubic Inch Size	8 Cubic Inch
Line Drier Type	Liquid Line Bi-Flo
Outlet Connection Size	3/8"
Overall Length	8 cubic in.



TRADEPRO P/N	TP-LLD163S
Filtration:	40 microns
Maximum working pressure:	600 psig
Composition:	Steel
Connection Type:	ODF
Cubic Measurement	0.0306
Diameter	2.5"
Dimensional Weight	1
Inlet Connection Size	3/8"
Line Drier Cubic Inch Size	16 Cubic Inch
Line Drier Type	Liquid Line Uni-Flo
Outlet Connection Size	3/8"
Overall Length	6-7/8"
Connection Size:	3/8"
Tonnage:	1 to 5 Tons



TRADEPRO P/N	TP-LLD083S
Filtration:	40 microns
Maximum working pressure:	600 psig
Composition:	Steel
Connection Type:	ODF
Cubic Measurement	0.0284
Diameter	2.5"
Dimensional Weight	1
Inlet Connection Size	3/8"
Line Drier Cubic Inch Size	8 Cubic Inch
Line Drier Type	Liquid Line Uni-Flo
Outlet Connection Size	3/8"
Overall Length	6-3/32"
Connection Size:	3/8"
Tonnage:	1 to 5 Tons





FOR INDUSTRY PROFESSIONALS



3/8" ODF SIGHT GLASS

Features and Benefits

Hermetically designed moisture indicator with 3% relative humidity sensitivity, intended for use on refrigerant lines.

- ✓ 3% relative humidity indication compared to 10% paper indicators
- ✓ 3% relative humidity sensitivity
- ✓ Accurate color calibration at low ppm levels and higher temperatures
- ✓ All brass corrosion resistant body
- ✓ Fully hermetic design
- ✓ Single indicator for all common refrigerants
- ✓ Solid copper fittings
- ✓ Tri color coded: Blue/Purple/Pink
- ✓ Wide angle viewing/ high visibility window for ease of monitoring

Technical Specifications

TRADEPRO P/N	TP-SSGSS3
Composition	Brass
Maximum working pressure	680 PSIG
Connection Size	3/8"
Connection Type	ODF
Cubic Measurement	0.0063
Diameter	1"
Dimensional Weight	1
Overall Length	4-5/8"



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