

Moisture / liquid indicators AMI, MIA & CIA

The AMI / MIA / CIA series of Moisture Indicators are designed to monitor the moisture content within the liquid line of a refrigeration system.

MIA and CIA series with stainless steel body and extended copper tube connections are fully hermetic products without the use of any gasket.

AMI is a highly serviceable product with exchangeable lens assembly and indicator element. available in various configurations including saddle type.



AMI



MIA / CIA

Features

- Max. allowable pressure PS:
 - AMI: 35 bar
 - MIA: 45 bar
 - CIA: 60 bar for subcritical CO₂ & R32
- MIA/CIA released for A2L refrigerants: R32, R452B, R454C, R454B, R454A, R1234yf
- Crystal indicator element for long lifetime and reliability
- Highest sensitivity moisture indicator available
- Indication of dryness according to ASERCOM recommendation
- Easy determination of moisture content with calibrated four colors
- Large clear viewing area
- AMI sight glass with grooves to distinguish between pure liquid and pure vapor

Selection table MIA & CIA

For Tube Outside Diameter		Type	Part No.	Configuration	Medium Compatibility		Markings			Picture
(mm)	(inch)				A1	A2L	UL SA4876	CSA Canada	CE Cat. I PED	
6		MIA M06	805880	Female solder x female solder ODF x ODF	R134a R22 R404A R407C R507 R513A R410A	R452B R454A R454B	✓	✓		
	1/4"	MIA 014	805883							
10		MIA M10	805881							
	3/8"	MIA 038	805884							
12		MIA M12	805882							
	1/2"	MIA 012	805885							
16	5/8"	MIA M16 / 058	805886							
22	7/8"	MIA 078	805887							
28		MIA M28	805891							
	1-1/8"	MIA 118	805892							
10		MIA M10S female/male	805888	Female solder x male solder ODF x ODF			✓	✓		
12		MIA M10S female/male	805889							
6		CIA M06	805914	Female solder x female solder ODF x ODF	CO ₂	R32	✓	✓		
	1/4"	CIA 014	805910							
10		CIA M10	805915							
	3/8"	CIA 038	805911							
12		CIA M12	805916							
	1/2"	CIA 012	805912							
16	5/8"	CIA M16 / 058	805913							

Selection table - AMI

For Tube Outside Diameter		Type	Part No.	Configuration	Medium Compatibility	Markings				Picture			
(mm)	(inch)					A1	UL SA4876	CSA Canada	CE Cat. I PED		UKCA		
6		AMI-1 TT2 MM	805697	Female solder x female solder ODF x ODF	R134a R22 R404A R407C R507 R513A								
	1/4"	AMI-1 TT2	805655										
10		AMI-1 TT3 MM	805698										
	3/8"	AMI-1 TT3	805654										
12		AMI-1 TT4 MM	805699										
	1/2"	AMI-1 TT4	805653										
16		AMI-1 TT5	805652										
22		AMI-1 TT7	805656										
28		AMI-1 TT9 MM	805700										
	1-1/8"	AMI-1 TT9	805651										
6		AMI-1 SS2 MM	805732	Female solder x female solder ODF x ODF		R134a R22 R404A R407C R507 R513A							
	1/4"	AMI-1 SS2	805713										
10		AMI-1 SS3 MM	805733										
	3/8"	AMI-1 SS3	805714										
12		AMI-1 SS4 MM	805734										
	1/2"	AMI-1 SS4	805715										
16		AMI-1 SS5	805716										
22		AMI-1 SS7	805717										
28		AMI-1 SS9 MM	805703										
	1-1/8"	AMI-1 SS9	805705										
6	1/4"	AMI-1 MM2	805706	Male flare x male flare		R134a R22 R404A R407C R507 R513A							
10	3/8"	AMI-1 MM3	805707										
12	1/2"	AMI-1 MM4	805708										
16	5/8"	AMI-1 MM5	805709										
6	1/4"	AMI-1 FM2	805710	Female flare x male flare			R134a R22 R404A R407C R507 R513A						
10	3/8"	AMI-1 FM3	805711										
12	1/2"	AMI-1 FM4	805712										
35	1-3/8"	AMI-2 S11	805704	Male solder ODM (for soldering into fittings)				R134a R22 R404A R407C R507 R513A					
42	1-5/8"	AMI-2 S13	805659										
54	2-1/8"	AMI-2 S17	805687										
22	7/8"	AMI-3 S7	805650	Saddle type (for soldering onto the pipe)	R134a R22 R404A R407C R507 R513A								
28	1-1/8"	AMI-3 S9	805649										
35	1-3/8"	AMI-3 S11	805648										

Accessories for AMI

Type	Part No.	Description
X 12978-1	805742	Lens assembly kit
X 99995	805643	O-Ring

Technical data

Maximum Allowable Pressure PS	AMI 35 bar MIA 45 bar CIA 60 bar
Test Pressure PT	AMI 39 bar MIA 49.5 bar CIA 66 bar
Operating Temperature TS	-40...+100 °C
Medium Compatibility	
A1 (Fluid Group II):	
AMI/MIA:	R134a, R22, R404A, R407C, R507, R513A
MIA only:	R410A
CIA only:	R744
A2L (Fluid Group I):	
MIA only:	R452B, R454A, R454B, R1234yf, R454C
CIA only:	R32

(Not released for use with caustic, poisonous or flammable substances)

Installation Location	In any position
Pressure Drop	Negligible
Standards	EN 12178
Marking	UL: see SA 4876 CSA for Canada: AMI series except AMI-3 A series except MIA-078 CE AMI > 32 mm belong to Cat. I of the PED 2014/68/EU

Crystal indicator

Where many products in the market use insensitive and technically simple paper indicators. Copeland has retained the long established crystal moisture indicators in all existing product series because of its known advantages. This guarantees system performance by providing a sensitive and durable monitoring of the systems moisture content. enabling the indicator to react to a minimum moisture level of 50 ppm specified by leading compressor manufacturers (see Asercom statement: www.asercom.org).

Moisture contents by indicator color

CIA		Refrigerants	A1 (CIA only)						A2L (CIA only)		
			R744						R32		
			Liquid Temperature (°C)						Liquid Temperature (°C)		
Color Code		-40	-20	-10	0	+5	+20	25	38	52	
ppm	Blue/ Dry		3	6	8	11	13	20	6	8	12
	Purple		5	10	14	19	22	34	9	13	19
	Fuchsia/ Caution		10	20	29	39	46	72	21	29	43
	Rose/ Caution WET!		16	32	46	63	75	116	34	46	69



AMI/MIA		Refrigerants	A1 (AMI/MIA)					A2L (MIA only)					
			Liquid Temp. (°C)	R22	R404A R507	R134a	R407C	R410A	R513A	R452B	R454B	R454A	R454C
ppm	Blue/ Dry	25	25	15	20	26	30	15	22	24	22	22	12
		38	35	25	35	40	55	20	34	34	28	28	14
		52	50	45	50	64	75	24	46	46	35	35	16
	Purple	25	40	33	35	42	50	19	28	28	27	27	14
		38	65	50	55	68	85	25	42	42	35	35	17
		52	90	60	85	109	120	30	58	58	44	44	20
	Fuchsia/ Caution	25	80	60	90	94	110	44	66	68	64	64	34
		38	130	110	120	144	190	58	99	101	82	82	40
		52	185	140	150	230	270	71	136	138	105	105	46
	Rose/ Caution WET!	25	145	120	130	151	165	75	112	119	108	108	58
		38	205	150	160	232	290	98	168	170	138	138	68
		52	290	180	190	371	420	121	230	232	177	177	78

Note: In area "Caution" and "Caution wet" filter drier should be changed.