

## 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

- Maximum allowable pressure PS:
  - AMI: 35 bar
  - MIA: 45 bar
  - CIA: 60 bar for subcritical CO<sub>2</sub> & 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 | 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   |   |                      |     |           |            |               |         |   |  | R507  | ✓ |   |   |
| 28                        |        | MIA M28              | 805891   |   |                      |     |           |            |               |         |   |  | R513A | ✓ | ✓ | ✓ |
|                           | 1 1/8" | MIA 118              | 805892   |   |                      |     |           |            |               |         |   |  | R410A | ✓ | ✓ | ✓ |
| 10                        |        | MIA M10S female/male | 805888   | Female solder x male solder ODF x ODF   |                      |     |           |            | ✓             | ✓       |   |  |       |   |   |   |
| 12                        |        | MIA M10S female/male | 805888   |   |                      |     |           |            |               |         |   |  |       |   |   |   |
| 6                         |        | CIA M06              | 805914   | Female solder x female solder ODF x ODF | CO <sub>2</sub>      | 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 |   |
| 6                         |        | AMI-1 TT2 MM | 805697   | Female solder x female solder ODF x ODF       |   |          |           |            |    |
|                           | 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                        | 5/8"   | AMI-1 TT5    | 805652   |   |   |          |           |            |   |
| 22                        | 7/8"   | 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<br>R22<br>R404A<br>R407C<br>R507<br>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                        | 5/8"   | AMI-1 SS5    | 805716   |   |   |          |           |            |   |
| 22                        | 7/8"   | 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                       |   |          |           |            |  |
| 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                     |   |          |           |            |  |
| 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) |   |          |           |            |  |
| 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)     |   |          |           |            |  |
| 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

|                                      |  |
|--------------------------------------|--|
| <b>Maximum Allowable Pressure PS</b> | AMI 35 bar<br>MIA 45 bar<br>CIA 60 bar   |
| <b>Test Pressure PT</b>              | AMI 39 bar<br>MIA 49.5 bar<br>CIA 66 bar   |
| <b>Operating Temperature TS</b>      | -40...+100 °C  |
| <b>Medium Compatibility</b>          | <p><b>A1 (Fluid Group II):</b></p> <p>AMI/MIA: R134a, R22, R404A, R407C, R507, R513A</p> <p>MIA only: R410A</p> <p>CIA only: R744</p> <p><b>A2L (Fluid Group I):</b></p> <p>MIA only: R452B, R454A, R454B, R123yf</p> <p>CIA only: R32</p> <p>(Not released for use with caustic, poisonous or flammable substances)</p> |

|                              |   |
|------------------------------|---|
| <b>Installation Location</b> | In any position   |
| <b>Pressure Drop</b>         | Negligible  |
| <b>Standards</b>             | EN 12178  |
| <b>Marking</b>               | <p><b>UL:</b> see SA 4876</p> <p><b>CSA for Canada:</b></p> <p>AMI series except AMI-3</p> <p>MIA series except MIA-078</p> <p><b>CE</b> AMI &gt; 32 mm &amp; MIA &gt; 25 mm belong to Cat. I of the PED 2014/68/EU</p> |

## Crystal Indicator

Where many products in the market use insensitive and technically simple paper indicators. Emerson 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](http://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/<br>Dry          | 3                       | 6   | 8  | 11 | 13  | 20  | 6                       | 8  | 12 |
|            | Purple                | 5                       | 10  | 14 | 19 | 22  | 34  | 9                       | 13 | 19 |
|            | Fuchsia/<br>Caution   | 10                      | 20  | 29 | 39 | 46  | 72  | 21                      | 29 | 43 |
|            | Rose/<br>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 |
| Blue/<br>Dry          | 25           | 25                | 15  | 20         | 26    | 30    | 15    | 22             | 24    | 22    | 12    |
|                       | 38           | 35                | 25  | 35         | 40    | 55    | 20    | 34             | 34    | 28    | 14    |
|                       | 52           | 50                | 45  | 50         | 64    | 75    | 24    | 46             | 46    | 35    | 16    |
| Purple                | 25           | 40                | 33  | 35         | 42    | 50    | 19    | 28             | 28    | 27    | 14    |
|                       | 38           | 65                | 50  | 55         | 68    | 85    | 25    | 42             | 42    | 35    | 17    |
|                       | 52           | 90                | 60  | 85         | 109   | 120   | 30    | 58             | 58    | 44    | 20    |
| Fuchsia/<br>Caution   | 25           | 80                | 60  | 90         | 94    | 110   | 44    | 66             | 68    | 64    | 34    |
|                       | 38           | 130               | 110 | 120        | 144   | 190   | 58    | 99             | 101   | 82    | 40    |
|                       | 52           | 185               | 140 | 150        | 230   | 270   | 71    | 136            | 138   | 105   | 46    |
| Rose/<br>Caution WET! | 25           | 145               | 120 | 130        | 151   | 165   | 75    | 112            | 119   | 108   | 58    |
|                       | 38           | 205               | 150 | 160        | 232   | 290   | 98    | 168            | 170   | 138   | 68    |
|                       | 52           | 290               | 180 | 190        | 371   | 420   | 121   | 230            | 232   | 177   | 78    |

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