Drawings

Models RCCY031, RCCY032, RCCY033, RCCY034
Coriolis Mass Flow and Density Meter
Remote Cable

ROTA*MASS*

Specification:

Li2Y(St)/CY 3x2 AWG24 + 1x3 AWG20, pair/triple shielded; pair/triple twisted; overall shielding
RCCY033/034 and RCCY031/032/KS1: flame propagation acc. IEC 60332-1.
or 3 x Coax + 1x3 AWG20, shielded, twisted; overall shielding; flame propagation acc. IEC 60332-1.

Model code	Temperature range	Wire gauge	Resistance of loop	Capacitance wire/wire	Capacitance wire/shield	Inductance wire/wire
RCCY031/032	-50 to +70°C	AWG 24 AWG 20	190 Ω/km 70 Ω/km	157 nF/km 193 nF/km	249 nF/km 290 nF/km	0.60 mH/km 0.65 mH/km
RCCY031/032 /KS1 **RCCY031/032 /NS1**	-50 to +70°C	AWG 24 AWG 20	190 Ω/km 70 Ω/km	157 nF/km 193 nF/km	249 nF/km 290 nF/km	0.60 mH/km 0.65 mH/km
RCCY033/034	-30 to +105°C	AWG 24 AWG 20	177 Ω/km 70 Ω/km	175 nF/km 145 nF/km	350 nF/km 290 nF/km	0.80 mH/km 0.70 mH/km
RCCY033/034 /KS1 **RCCY033/034 /NS1**	-30 to +105°C	AWG 24 AWG 20	177 Ω/km 70 Ω/km	175 nF/km 145 nF/km	350 nF/km 290 nF/km	0.80 mH/km 0.70 mH/km
RCCY03x with coax	-50 to +105°C	Coax AWG 20	37 Ω/km 70 Ω/km	120 nF/km 145 nF/km	132 nF/km 290 nF/km	0.175 mH/km 0.70 mH/km

Signal Cable Wiring:

9-wire cable

Detector RCCS3[]	Cable	Converter RCCF31 / RCCR31
D +	1 ---------- 1	D +
D -	2 ---------- 2	D -
S1 +	3 ---------- 3	S1 +
S1 -	4 ---------- 4	S1 -
S2 +	5 ---------- 5	S2 +
S2 -	6 ---------- 6	S2 -
TP1	7 ---------- 7	TP1
TP2	8 ---------- 8	TP2
TP3	9 ---------- 9	TP3
	---------- shields	COM

Cable with coaxial lines

Detector RCCS3[]	Cable	Converter RCCF31 / RCCR31
D +	1 ---------- 1	D +
D -	----------shield----------	D -
S1 +	2 ---------- 2	S1 +
S1 -	----------shield----------	S1 -
S2 +	3 ---------- 3	S2 +
S2 -	----------shield----------	S2 -
TP1	4 ---------- 4	TP1
TP2	5 ---------- 5	TP2
TP3	6 ---------- 6	TP3
	---------- shields	COM

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Termination procedure for cable with coaxial lines:

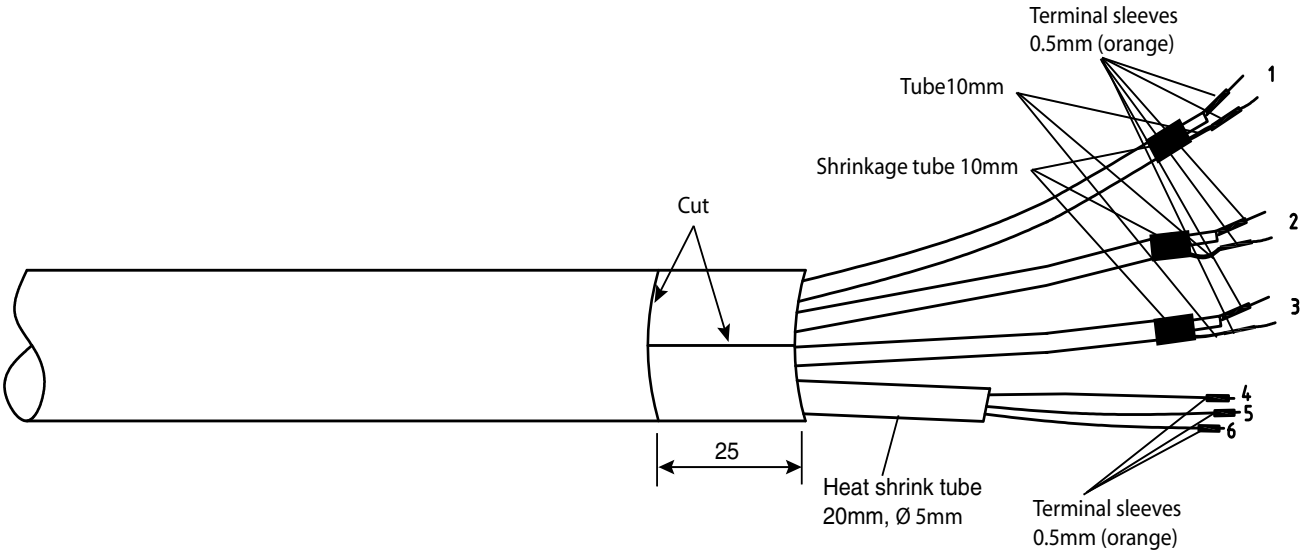
For RCCY03x-0 Lxxx the customer has to terminate the cable by his own.

The termination set (Mat. No. M3813WJ) contains:
- Instruction M3813WD
- 2 x 20mm shrink down tube, Ø 5mm
- 6 x 10mm shrink down tube
- 6 x tube di = 1mm, length 10mm
- 6 markers (2 x 1–3)
- 6 markers (2 x 4–6)
- 18 sleeves 0.5mm² orange
- 1 sleeves 0.25mm² light blue
- 1 label “CONVERTER”
- 1 label “FLOWMETER”
- 1 label “RCCY03”

NOTE
Careful assembly of the cable is indispensable for correct connection between the detector and the converter. This ensures good measuring results.

Cable end detector
- Remove PVC outer sheath and outer shielding 100mm from the end.
- Remove the clear wrap and the filler material, the foil that is around the isolated wires and drain wire close to the cable jacket.
- Termination of the 3 single wires:
- Slide a shrink down plastic tube (Ø 4.8mm, l=20mm) over the 3 wires, push it to the cable jacket and heat with hot air.
- Strip 8mm of the wire ends.
- Crimp the orange terminal sleeves (0.5mm²) to the ends of the 3 wires.

- Termination of the 3 Coax cables:
- Remove the PVC sheath 25mm from the end.
- Unbraid the copper wire mesh and twist it.
- Cut the wire 5mm and strip 8mm of the end.
- Cut the copper wire mesh to match the wire length and slip a tube (10mm) over it.
- Slip a 10mm shrink down tube over wire and shield to the transition to the cable and shrink it (s. photo).
- Crimp an orange terminal sleeve (0.5mm²) to the end of the wire and to the drilled wire mesh.
- Make a radial cut into the PVC outer sheeting 25mm from the end and cut lengthwise. [1)]



Cable end converter

- Remove PVC outer sheath and outer shielding 100mm from the end.
- Remove the clear wrap and the filler material.
- Remove the foil that is around the isolated wires.
- Do not clip off the drain wire!
- Termination of the 3 single wires:
- Slide a shrink down plastic tube (Ø 4.8mm, l=20mm) over the 3 wires, push it to the cable jacket and heat with hot air.
- Strip 8mm of the wire ends.
- Crimp the orange terminal sleeves (0.5mm²) to the ends of the 3 wires.
- Crimp the light blue terminal sleeves (0.25mm²) to the end of the drain wire.

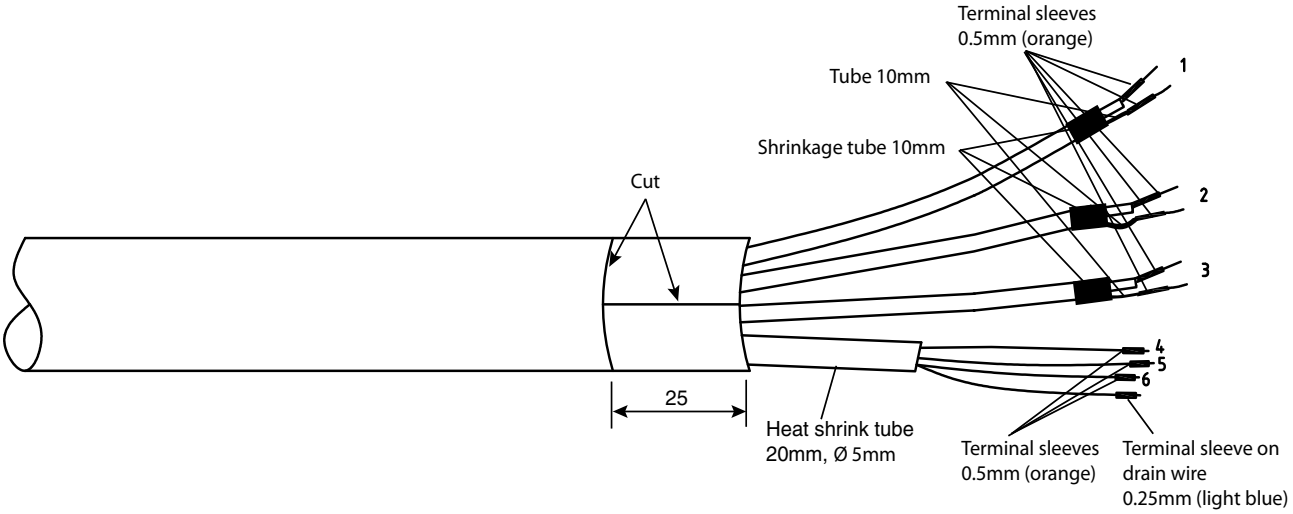
- Termination of the 3 Coax cables:
- Remove the PVC sheath 25mm from the end.
- Unbraid the copper wire mesh and twist it.
- Cut the wire 5mm and strip 8mm of the end.
- Cut the copper wire mesh to match the wire length and slip a tube (10mm) over it.
- Slip a 10mm shrink down tube over wire and shield to the transition to the cable and shrink it (s. photo).
- Crimp an orange terminal sleeve (0.5mm²) to the end of the wire and to the drilled wire mesh.
- Make a radial cut into the PVC outer sheeting 25mm from the end and cut lengthwise. [1)]

Slide the conductor markers onto the wire ends on both sides, so that the Coax with printed “1” gets marker “1”, the Coax with printed “2” gets marker “2” and the Coax with printed “3” gets marker “3”. The 3 single wires get the markers “4” (white), “5” (brown) and “6” (yellow).
Each wire must have the same number on detector and on converter side.

1)

NOTE

These sections of the outer sheath are removed only when connecting the cable at both cable ends and the outer shielding harness is connected electrically to the detector and converter housings via the metal PU- cable glands.



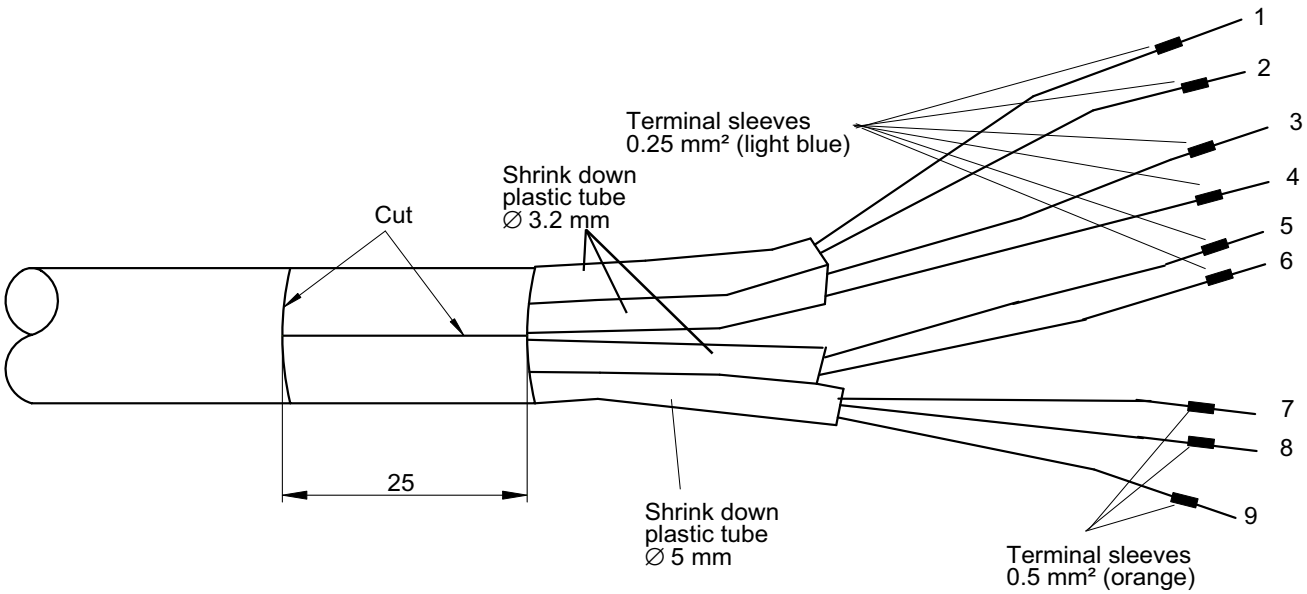
Termination procedure for 9- wire cable:

For RCCY03x-0 Lxxx the customer has to terminate the cable by his own.

The termination set (Mat. No. 512-22-6565) contains :
- 6 x 20 mm shrink down plastic tube , Ø 3.2 mm
- 2 x 20 mm shrink down plastic tube , Ø 4.8 mm
- 18 conductor markers
- 12 terminal sleeves 0.25 mm2 light blue
- 6 terminal sleeves 0.5 mm2 orange
- 1 terminal sleeve 1.5 mm2 red
- 1 label “CONVERTER”
- 1 label “FLOWMETER”
- 1 label “RCCY03”

NOTE
Careful assembly of the cable is indispensable for correct connection between the detector and the converter. This ensures good measuring results.

Cable end detector
- Remove PVC outer sheath and outer shielding 100 mm from the end.
- Remove the clear wrap and the filler material.
- Remove the foil that is around the isolated wires.
- Clip off each drain wire close to the cable jacket.
- Slide a shrink down plastic tube Ø 3.2 mm, l = 20 mm) over each of the 3 pairs and a shrink down plastic tube (Ø 5 mm, l = 20 mm) over the 1 triple of wires, push it to the cable jacket and heat with hot air.
- Strip 8 mm of the cable ends.
- Fix the light blue terminal sleeves (0.25 mm²) to the wire endings of the 3 cable pairs.
- Fix the orange terminal sleeves (0.5 mm²) to the wire endings of the cable triple
- Make a radial cut into the PVC outer sheath 25 mm from the end and cut lengthwise.[1)]



Cable end converter

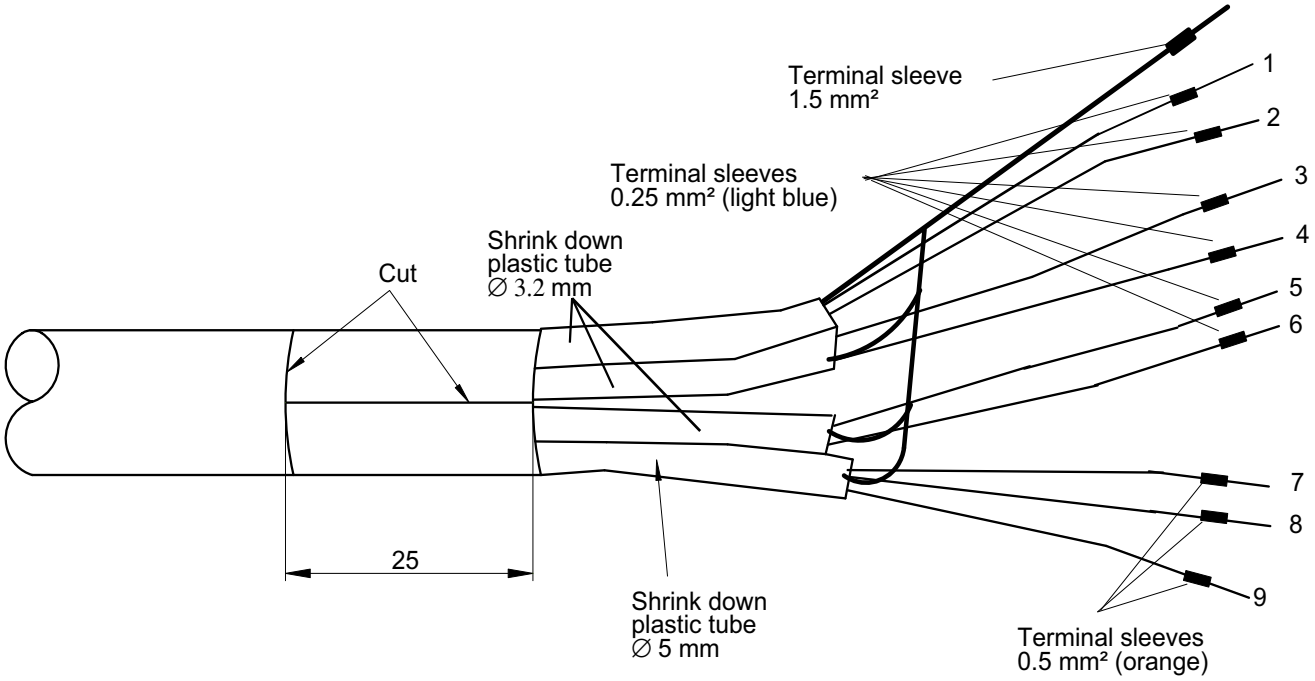
- Remove PVC outer sheath and outer shielding 100 mm from the end.
- Remove the clear wrap and the filler material.
- Remove the foil that is around the isolated wires.
- Do not clip off the drain wires !
- Twist the 4 drain wires together and fix the 1.5 mm² terminal sleeve.
- Slide a shrink down plastic tube (Ø 3.2 mm, l = 20 mm) over each of the 3 pairs and a shrink down plastic tube (Ø 5 mm, l = 20 mm) over the 1 triple of wires, push it to the cable jacket and heat with hot air.
- Strip 8 mm of the cable ends.
- Fix the light blue terminal sleeves (0.25 mm²) to the wire endings of the 3 cable pairs.
- Fix the orange terminal sleeves (0.5 mm²) to the wire endings of the cable triple
- Make a radial cut into the PVC outer sheath 25 mm from the end and cut lengthwise. [1)]

Slide the conductor markers onto the wires on both sides of the cable, so that the pairs are numbered 1-2, 3-4, 5-6 and the triple 7-8-9. Each cable must have the same number on detector and on converter side.

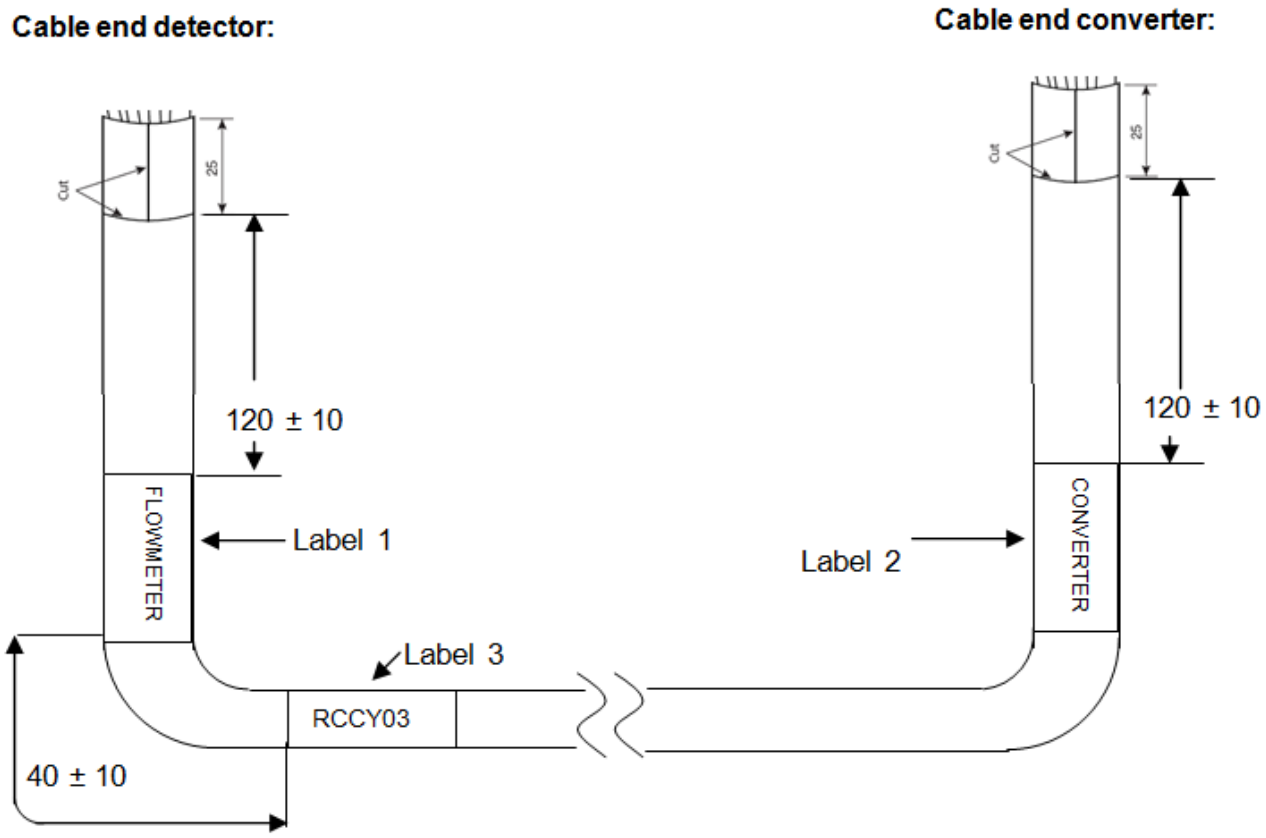
[1)]

NOTE

These sections of the outer sheating are removed only when connecting the cable at both cable ends and the outer shielding harness is connected electrically to the detector and converter housings via the metal PU-cable glands.



Fix labels:


Cable end detector:
Cable end converter:
Cut
25
120 ± 10
FLOWMETER
Label 1
Label 2
CONVERTER
Label 3
RCCY03
40 ± 10