



Three protocols are offered to achieve conscious flow measurements in the rat. The three protocols differ due to the type of spring tether and skin button used.

Instech PO135 Spring Tether and Instech Polysulfone Skin Button

For this protocol, the connector is cut off the probe and the cable is threaded through the skin button and spring tether. Cannulation tubes would also be threaded through these items at this time. The cable from the probe is then soldered to the Airflyte electronic swivel input leads and the connector is then soldered to the Airflyte electric swivel output leads.

APPLICATION	PROBE	REFLECTOR (SLIDE)	CONNECTOR	CABLE
Cardiac Output:	2.5SL	J reflector (no)	CM4B	100 cm*
Renal/Carotid	1RB	J reflector (yes)	CM4B	60 cm*
Mesenteric	1RS or 1RB	J reflector (yes)	CM4B	60 cm*

*The probe cable will have to be cut to the desired length. **The connector comes installed so Transonic can test and calibrate the probe.**

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Transonic #MCS11 Spring Tether and Transonic Silicone CA4 Cuff Skin Button (#AAPC103)

For this protocol, the extension cable is cut and soldered to the Airflyte electronic swivel input leads. The extension cable connector is then soldered to the Airflyte electronic swivel output leads. The probe cable and connector are threaded through the silicone skin button and spring tether. The size and number of cannulation tubes may be limited using the Transonic spring. Once the connector has been threaded through the spring it can be plugged into the extension cable connector.

APPLICATION	PROBE	REFLECTOR (SLIDE)	CONNECTOR	CABLE
Cardiac Output:	2.5SL	J reflector (no)	CA4	60 cm**
Renal/Carotid	1RB	J reflector (yes)	CA4	60 cm**
Mesenteric	1RS or 1RB	J reflector (yes)	CA4	60 cm**

**or your desired length; In this situation, you will NOT cut the cable on the probe. Instead, you will cut the connector off of the extension cable. It is important that you choose a suitable length for the cable on the probe itself. The Transonic #MCS11 spring tether is 18 inches long. The polysulfone skin button will wear better on a longer implantation experiment than will the silicone skin button.

Exteriorization via Skin Button (Transonic Single Rigid Saddleback Cuff, #AAPC104).

For this protocol, a short probe cable length is chosen and the probe connector is exteriorized through a Transonic Single Rigid Saddleback Cuff (#AAPC104) skin button. A spring-covered CM4-WM40-CH10, 1 meter extension cable is then plugged into the connector at the skin button and is then cut and soldered onto the swivel apparatus. This method is most appropriate if cannulas for measuring pressure or drug delivery are to be used or if continuous conscious measurements are needed.

APPLICATION	PROBE	REFLECTOR (SLIDE)	CONNECTOR	CABLE
Cardiac Output:	2.5SL	J reflector (no)	CM4B	9-20 cm
Renal/Carotid	1RB	J reflector (yes)	CM4B	9-20 cm
Mesenteric	1RS or 1RB	J reflector (yes)	CM4B	9-20 cm

Pictures of the 1RS and 1RB flowprobes can be seen on www.transonic.com, Research Home page, Index link: 1-2.5 mm R & S-Series probes.

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A 1996 publication: D'Aleida et al, "Validation of Transit-Time Ultrasound Flow Probes to Directly Measure Portal Blood Flow in Conscious Rats," 1996; Am J Physiol 271 (Heart Circ. Physiol. 40): H2701-H2709, has an excellent graphic showing where they positioned the flowprobe and how they exteriorized the connector.

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Instech and Airflyte equipment can be purchased directly from these companies:

Instech Laboratories Inc.

Tel: 215-941-1032; Fax: 215-941-0134; www.instechlabs.com

Airflyte Electronics

Tel: 201-436-2230; Fax: 201-436-6024; www.airflyteelectronics.com



