Probe Technical Specifications

Features	U-Probe	V-Probe	S-Probe	Remarks
Application	Acute			
Channel counts	8, 16, 24, 32, or 64			
Total probe length	30 - 150mm			Length is customizable within range provided; however, the most typical configuration is 100mm. Total probe length is measured from tip to the connector. The difference between the total probe length and the reinforcement tube length must be a minimum of 25 mm.
Probe diameters	185 - 500µm			Probe diameters vary based on the number of electrodes, fluid channels and optic fibers. Refer to Tables
Reinforcement tube length	5 - 125mm			Length is customizable within range provided
Reinforcement tube outer diameters	460 or 640µm			Refer to Table
Electrode construction	15, 20, 25 and 40µm diameter platinum/iridium electrode site			15µm diameter sites are recommended for resolving single units.
Electrode configurations	Single, Stereotrode, or Tetrode*	Single	Single, Stereotrode, or Tetrode*	Single configuration is most typical; stereotrodes and tetrodes tend to be used in areas with an especially high density of neurons (e.g. hippocampus). 64 channel available in stereotrode configuration with 100µm or 150µm interelectrode spacing.
Inter-electrode spacing	50, 75, 100, 150, or 200µm along length of probe			100, 150 and 200µm are most typical. 64 Channel probes with a single electrode configuration are available with 50, 75, or 100um inter-electrode spacing. 64 channel probes with stereotrode configuration require 100um or 150um interelectrode spacing.
Distance from tip to the closest electrode site	Refer to Table	300µm	Refer to Table	The numbering of the electrode sites is such that channel #1 is closest to the connector. The minimum distance is a factor of tip angle and probe diameter.
Angled Reinforcement Tube	Yes			Enables the placement of multiple probes within close proximity of each other at the same time Angle can be 0-45° and will be placed in the middle of the reinforcement tube.
Fluid capillary ID, OD	40µm, 60µm			Fluid capillaries are slightly offset from the center line of the electrodes.
Optic fiber ID, OD, NA	46µm, 50µm, .66NA			Optic fibers are slightly offset from the center line of the electrodes.
Maximum number of fluid capillaries and/or optic fibers	Single: Up to 4 Stereotrode or Tetrode: Up to 2 64 channel: 1	4	Single: Up to 4 Stereotrode or Tetrode: Up to 2 64 Channel: 1	Single Electrode Configuration: Able to accomodate any combination of up to four additional fluid capillaries/optic fibers. U-Probe and S-Probe Stereotrode or Tetrode: Able to accomodate any combination of up to two additional fluid capillaries/optic fibers. 64 channel single and stereotrode configurations can have one fluid capillary or one optic fiber.
Connector interfaces	8 channel: CON/8o50m-10P 16 channel: 2x CON/8o50m-10P, CON/16m-V or CON/16o25m-18P 24 channel: 3x CON/8o50 or CON/32m-V 32 channel: CON/32m-V 64 channels: 2x CON/32m-V or CON/64f-Samtec			
Lifespan	Robust and reusable with a minimum of 30 penetrations, likely many more			Extensive, repeat use is expected upon using proper penetration procedures

*64 channel not available in tetrode configuration

Probe Technical Specifications

Single Electrode Configuration

Channels	Fluid Capillaries or Optic Fibers	Minimum Probe Diameter (µm)*	Distance from tip to 1st electrode**			Reinforcement Tube Diameter (µm)
			U-Probe	S-Probe	V-Probe	
8	0,1	185	320	500	300	460 or 640
8	2	210	360	540	300	460 or 640
8	3	260	450	640	300	640
8	4	300	520	710	300	640
16	0	210	320	500	300	460 or 640
16	1	210	360	540	300	460 or 640
16	2	236	410	580	300	640
16	3	300	520	710	300	640
16	4	320	560	750	300	640
24	0	210	360	540	300	460 or 640
24	1	236	410	580	300	640
24	2	300	520	710	300	640
24	3	320	560	750	300	640
24	4	360	620	820	300	640
32	0	260	450	640	300	640
32	1	260	450	640	300	640
32	2	300	520	710	300	640
32	3	320	560	750	300	640
32	4	360	620	820	300	640
64	0	320	560	750	300	640
64	1	360	620	820	300	640

Stereotrode/Tetrode Electrode Configuration

Channels	Fluid Capillaries or Optic Fibers	Minimum Probe Diameter (µm)	Distance from tip to 1st electrode*		Reinforcement Tube Diameter (µm)
			U-Probe	S-Probe	
8	0-1	185	320	500	460 or 640
8	2	210	360	540	460 or 640
16	0	210	320	500	460 or 640
16	1, 2	236	410	600	640
24	0	210	360	540	460 or 640
24	1, 2	260	450	640	640
32	0	260	450	640	640
32	1, 2	300	520	710	640
64***	0	320	560	750	640
64***	1	360	620	820	640

* Applicable to probes with 15µm diameter electrode sites

**Batch variation in tubing inner diameter may require a larger probe diameter or larger reinforcement tube

***Available in Stereotrode configuration with interelectrode spacing of 100µm or 150µm