Detailed Specifications

Product: Spike

Date: 2023-06-27

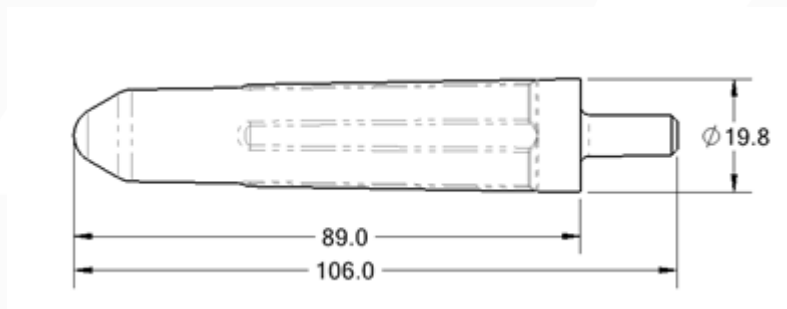Version: 1.0

Introduction

Spike II is the product name for a Tempo Communications electronic resonant marker in the form of a "carrot" or "lipstick" marker.

These smaller and more compact markers are ideal for indicating key locations on shallower buried services such as telecoms. They better suit any service that is installed using micro trench techniques which are too small to accept the larger "Omni-marker".

Specification

Dimensions:

Cylindrical, 19.8mm diameter, 89 or 106mm long, depending on optional 7mm (nominal) diameter attachment "top-hat" feature.

Material:

Outer shell: High density polyethylene

Resonant circuit: Ferrite core with polyurethane insulated copper wire winding, small fibreglass PCB with precision capacitors for tuning.

Detection method:

Resonant frequency

Versions:

Model	Description	UPC Code
SM11	SPIKE MARKER PURPLE 66KHZ (GENERAL PURPOSE/NON-POTABLE WATER)	810025413583
SM12	SPIKE MARKER ORANGE/BLACK 77KHZ (CATV)	810025413958
SM13	SPIKE MARKER YELLOW 83KHZ (GAS)	810025414474
SM14	SPIKE MARKER YELLOW/BLACK 92 KHZ (OPTICAL FIBRE)	810025416430
SM15	SPIKE MARKER ORANGE 101.4 KHZ (TELEPHONE)	810025416447
SM16	SPIKE MARKER GREEN 121 KHZ (WASTE WATER/SANITARY)	810025416478
SM17	SPIKE MARKER BLUE/RED 134 KHZ (EUROPOWER)	810025416928
SM18	SPIKE MARKER BLUE 145 KHZ (WATER)	810025417154
SM19	SPIKE MARKER RED 169 KHZ (POWER)	810025416966
SM24	SPIKE MARKER 7MM CAP YELLOW/BLACK 92 KHZ (OPTICAL FIBRE)	810025417062
SM25	SPIKE MARKER 7MM CAP ORANGE 101.4 KHZ (TELEPHONE)	810025416959
SM25KT	SPIKE MARKER END-CAP KIT (SM-25+7MM HARD COUPLER)	810025417178
SMFIX	SPIKE MARKER FIXING KIT (HOLDER AND CABLE TIE)	810025417352
SMAD1	SPIKE MARKER 7MM & 10MM SOFT DUCT ADAPTOR	810025417331

Frequency tolerance:

Better than ±1% of nominal at production, expected ageing better than ±3% over 30 years (measured at 20±5 Celsius). Working temperature range -20 to +50C, storage -40 to +70C.

Detection range (working depth):

Assuming use of Tempo EML100 detector; >100cm when mounted vertically, >60cm when mounted horizontally.

Options and Accessories:

Optional "coupler" attachment point for 7mm "microduct" coupler "SM2x" versions

Optional "rubber" (thermoplastic elastomer) multi diameter adaptor "SMFIX"

Optional "soft" duct adaptor, 7 and 10mm "SMAD1"

SM25KT is a "Kit" containing SM25 pre-fitted with a 7mm microduct coupler intended for immediate use as an "end-cap-marker".

Safety & Environmental Data

Spike II is produced using no "potentially harmful" materials as defined by EU REACH legislation or California Proposition 65 etc. No additional warnings are required. HDPE is used for the enclosure as it is particularly "inert" in the environment; absorbs near zero water and is designed to provide protection for the electronics for several decades.

Packaging

For waste disposal all packaging is recyclable (card and paper). No plastic packaging.

Reuse

Spike markers are expected to have a working lifetime measured in decades and can be re-used when excavated.

Recycling

At end-of-life, Spike II should be directed to electrical waste recycling for recovery of the HDPE, copper and ferrite materials. It is expected that greater than 95% by weight is recoverable.

Material Safety

There are no risks in normal use.

Fire

Should a large number of Spike markers be involved in a fire then they can emit heavy toxic fumes (see HDPE, CAS 9002-88-4). Firefighting is best done with a foam, powder, fine water mist or CO_2 to suppress the fumes and cool the source of the fire. These are also recommended methods for fighting a fire in the corrugated paper packaging materials.

Do you like this solution?
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