Red : 76-006

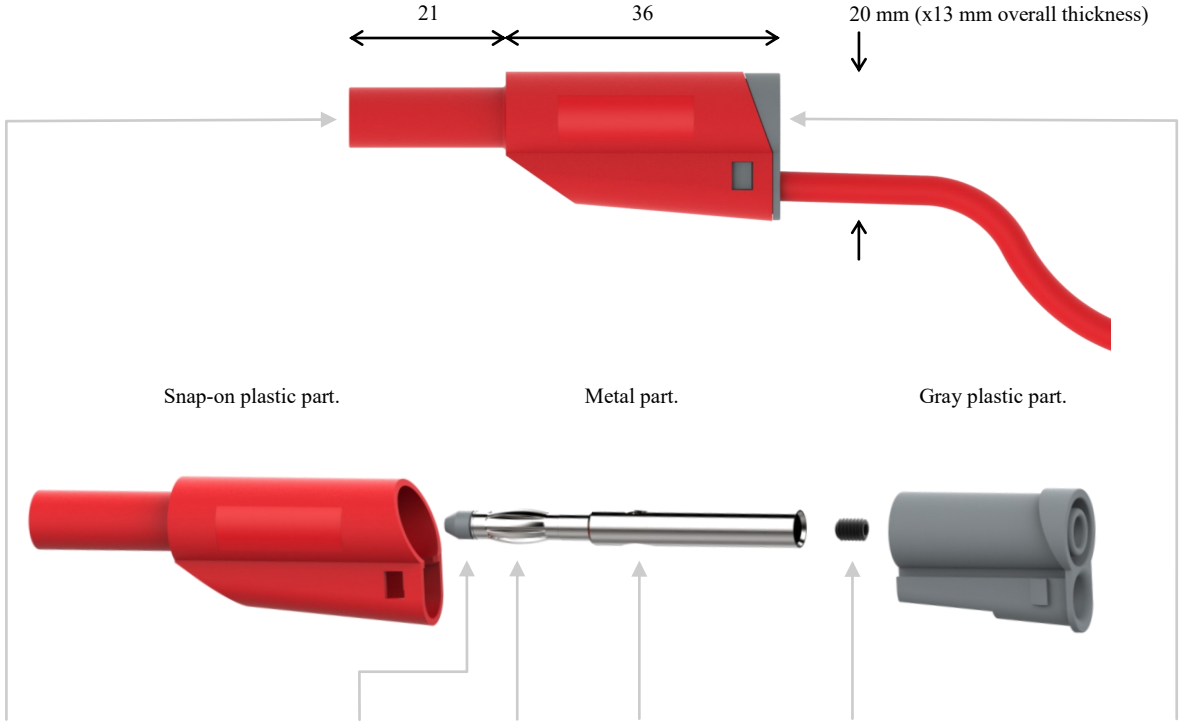
TENMA®

DATA SHEET (PAGE 1 OF 2).

Designation : Do-it-Yourself (DIY). Stacking 4 mm Banana (male) Plug. Solderless Screw Wire Attachment.

Applications : in-the-field repairing and making of safety 4 mm banana leads.

Rear 4 mm banana female connection to stack plugs.



The 4 mm banana male connection complies with the 4 mm banana sockets of the worldwide most famous manufacturers.

Insulating gray tip on the 4 mm banana male connection to prevent accidental contact.

The design and the material of the lantern contact spring meet the need of low resistance and reliability.

Transverse hole of the metal part to slip the strands of the wire into.

Allen screw to attach the wire to the metal part.

CE
European Union marking.

The 4 mm banana female connection complies with the 4 mm banana plugs of the worldwide most famous manufacturers.

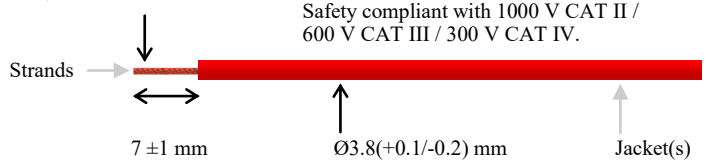
The benefit of screw attachment is to repair or make a lead in the field with just a screwdriver.

How to implement : attaching a wire.

Step 1 of 6. I gather a 1.5 mm Allen wrench, a stranded wire with the specifications below, and a tool to strip the wire. I check that the wire and the parts of the plug have no default. I strip the end of the wire on 7 mm ±1 mm.

Ø2.6 mm maxi. (approximately 12 AWG).
0.75 mm² mini., 2.50 mm² maxi..

Specifications of the wire.



Step 2 of 6. With the 1.5 mm Allen wrench I unscrew the Allen screw without removing it.

Step 3 of 6. I slip the stripped end of the wire through the gray plastic part and into the transverse hole of the metal part as shown below.

Step 4 of 6. With the 1.5 mm Allen wrench I screw and tighten (2.3 N.m maxi. torque) the Allen screw on the end of the wire.

Step 5 of 6. I insert the metal part into the gray plastic part while I pull the wire. I insert the other side of the metal part into the snap-on plastic part. I push the gray plastic part towards the snap-on plastic part until they clip. As shown below.

Step 6 of 6. I check the gray plastic part is well locked in the snap-on plastic part.

The plug is ready to use.

Dimensions in millimeters.

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Designation : Do-it-Yourself (DIY). Stacking 4 mm Banana (male) Plug. Solderless Screw Wire Attachment.

Electrical safety 1000 V CAT II 600 V CAT III 300 V CAT IV	According to EN / IEC 61010-031:2008. Up to 1000 V CAT II / 600 V CAT III / 300 V CAT IV, reinforced insulation, up to 36 A (at +40 °C) depending on the wire. According to EN / IEC 60529. IP2X (touchproof). These specifications come from the creepage distances, clearances, accessible parts, and solid insulation of the lead. And the considered specifications of the environment are : • pollution degree, 1 or 2 ; • relative humidity, 80 % maximum for temperatures up to 31 °C decreasing linearly to 50 % relative humidity at +40 °C ; • temperature range, +5 °C to +40 °C ; • indoor use ; and • altitude, 2000 m maximum.+
The electrical safety provided by the plug depends on : • the specifications of the wire ; • the electrical safety of the wire (typically 1000 V CAT II / 600 V CAT III / 300 V CAT IV, reinforced insulation, according to EN / IEC 61010-031:2008) ; • the right assembling of the plug on the wire.	
Operating temperature range	-20 °C mini., +80 °C maxi. (please see above too).
Protection against fire	According to EN / IEC 61010-031:2008. The lead is compatible with the requirements of protection against the spread of fire and resistance to heat by its basic insulation.
Conformity	• European Directive "Low Voltage Directive" 2014/35/EU. • International / European standard EN / IEC 61010-031:2008. • International / European standard EN / IEC 60529. • European REACH regulation n°1907 / 2006. • European Directive "RoHS" 2011/65/EU.
Environment	• "RoHS" compliant, Pb ≤ 4 % in conductor, Pb ≤ 0.1 % in insulator, Hg ≤ 0.1 %, Cr VI ≤ 0.1 %, Cd ≤ 0.01 %, PBB ≤ 0.1 %, and PBDE ≤ 0.1 %. • REACH compliant, no substances from the candidate list of SVHC for authorisation at mass concentrations greater than 0.1 %.
Materials	Conductors of the plugs : nickel-coated brass. Wire jackets : PVC. Insulators and lantern contact spring, please contact us.
Colors	Red
Origin	Designed and manufactured in France.
Reliability benchmark	Year of 1st placing on the market 1997.
Packaging	One piece per bag (in one bag : 1 metal part including 1 Allen screw + 1 gray plastic part + 1 snap-on plastic part).

GLOSSARY :

ACCESSIBLE. Able to be touched with a standard test finger or test pin.

BASIC INSULATION. Insulation of HAZARDOUS LIVE parts which provides basic protection.

CAT II. Measurement or overvoltage category II. For measurement performed on / equipment connected to the building wiring.

CAT III. Measurement or overvoltage category III. For measurement performed on / equipment connected to part of a building wiring installation.

CAT IV. Measurement or overvoltage category IV. For measurement performed on / equipment connected to the origin of the electrical supply to a building.

CLEARANCE. Shortest distance in air between two conductive parts.

CREEPAGE DISTANCE. Shortest distance along the surface of a solid insulating material between two conductive parts.

CTI. Comparative Tracking Index of the insulating material in accordance with IEC 60112.

DOUBLE INSULATION. Insulation comprising both BASIC INSULATION and SUPPLEMENTARY INSULATION.

EN / IEC 60529:2001. The 2001 version of the European / international standard regarding the degrees of protection provided by enclosures.

EN / IEC 61010-1:2010. The latest version (in February 2012) of the European / international standard regarding the safety requirements for electrical equipment for measurement, control, and laboratory use – Part 1: General requirements. Version year 2010.

EN / IEC 61010-031:2008. The latest version (in February 2012) of the European / international standard regarding the safety requirements for electrical equipment for measurement, control and laboratory use – Part 031: Safety requirements for hand-held probe assemblies for electrical measurement and test. Version year 2008.

"LVD". European Directive 2006/95/EC on the harmonisation of the laws of Member States relating to electrical equipment designed for use within certain voltage limits. (Usually called the Low Voltage Directive.)

MAINS. Low-voltage electricity supply system to which the equipment concerned is designed to be connected for the purpose of powering the equipment.

MAINS CIRCUIT. Circuit which is intended to be directly connected to the MAINS for the purpose of powering the equipment.

OVERVOLTAGE CATEGORY. Numeral defining a TRANSIENT OVERVOLTAGE condition.

POLLUTION. Addition of foreign matter, solid, liquid or gaseous (ionized gases), that may produce a reduction of dielectric strength or surface resistivity.

POLLUTION DEGREE. Numeral indicating the level of POLLUTION that may be present in the environment.

POLLUTION DEGREE 1. No POLLUTION or only dry, non-conductive POLLUTION occurs, which has no influence.

POLLUTION DEGREE 2. Only non-conductive POLLUTION occurs except that occasionally a temporary conductivity caused by condensation is expected.

REINFORCED INSULATION. Insulation which provides protection against electric shock not less than that provided by DOUBLE INSULATION.

"RoHS". European Directive 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment.

SOLID INSULATION. Insulating materials.

SUPPLEMENTARY INSULATION. Independent insulation applied in addition to BASIC INSULATION in order to provide protection against electric shock in the event of a failure of BASIC INSULATION.

TRANSIENT OVERVOLTAGE. Short duration overvoltage of a few milliseconds or less, oscillatory or non-oscillatory, usually highly damped.

WORKING VOLTAGE. Highest r.m.s. value of the a.c. or d.c. voltage across any particular insulation which can occur when the equipment is supplied at rated voltage.

 Information in this publication supersedes all earlier versions. Specifications subject to change without notice. © 2016.

Dimensions in millimeters.