



DIGITAL WE DAYS 2025 #PLUGTHEPOWER

Goetz Schattmann
FAE Electromechanical Components

WÜRTH ELEKTRONIK MORE THAN YOU EXPECT

RETHINKING POWER CONNECTORS

How WE REDFIT WR-WSP
can save you time and money



AGENDA

REDFIT CRIMP SKEDD Connector

- Intro
- What is WR-WSP ?
- Look into details
- Qualification
- Application

REDFIT CRIMP SKEDD CONNECTOR

What is WR-WSP ?

Key figures

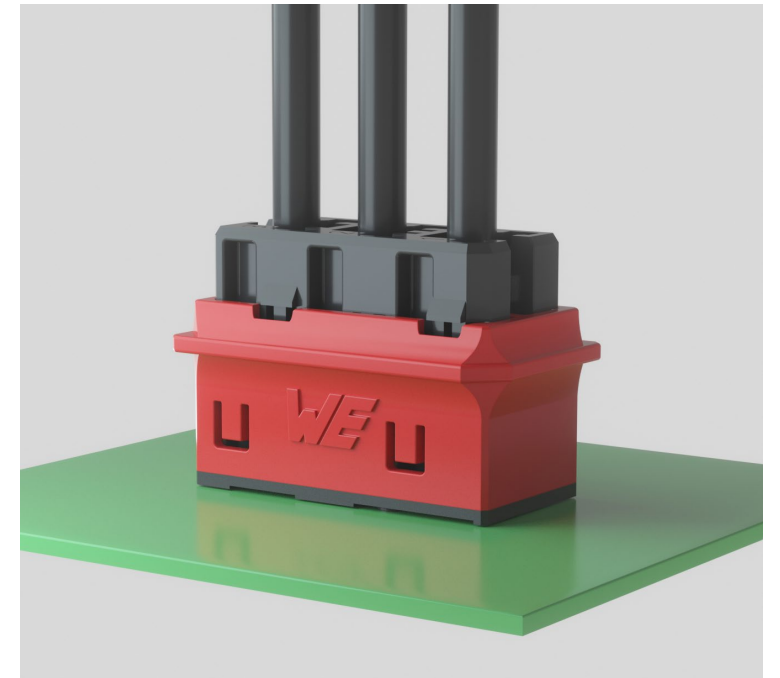
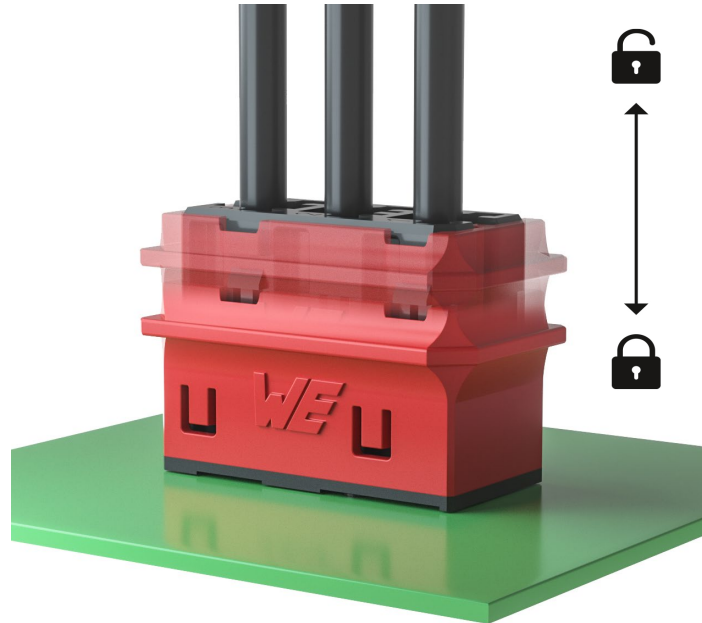
- Pluggable Connector
 - Solderless
 - Direct connect to the PCB
 - Tool-free Assembly
 - Up to 16A @ 400Vac
 - Poles 1 to 5
 - Pitch 6mm
 - Reverse Polarity Protection
 - Active Locking
-
- UL and VDE compliant
 - UL94-V0 and GlowWire conformity



REDFIT CRIMP SKEDD CONNECTOR

Look into details

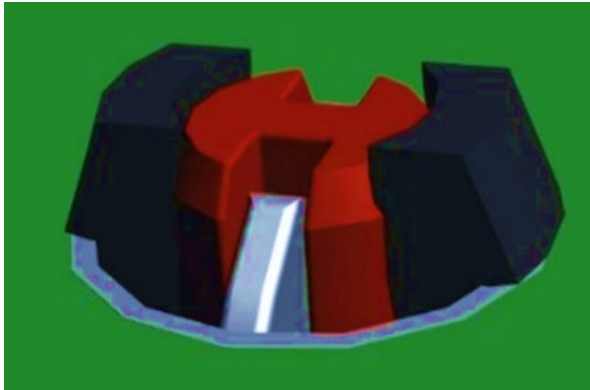
- Easily plug and unplug
- Connect directly into the PCB
- No socket connector – no soldering
- Push down frame to lock
- 10G approved



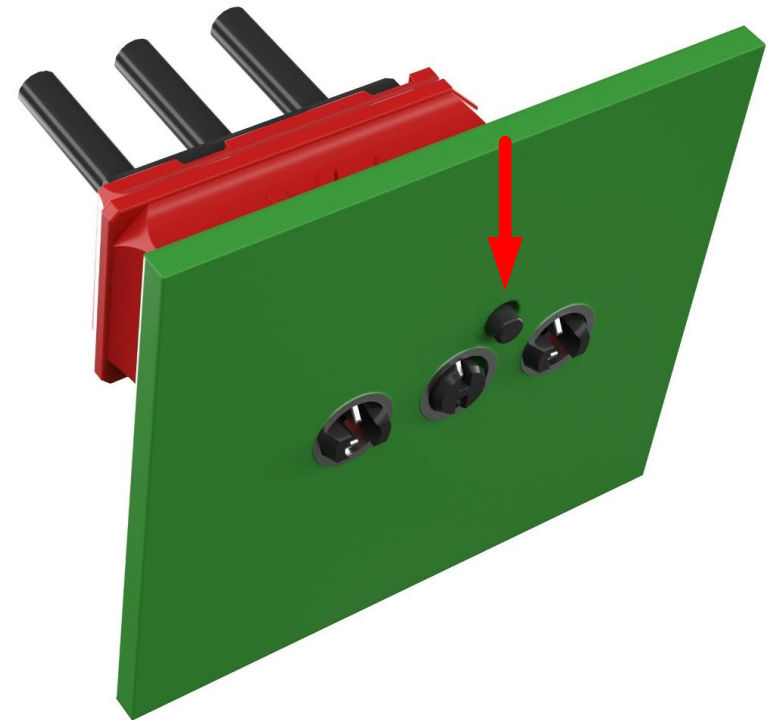
REDFIT CRIMP SKEDD CONNECTOR

Look into details

Active Locking System



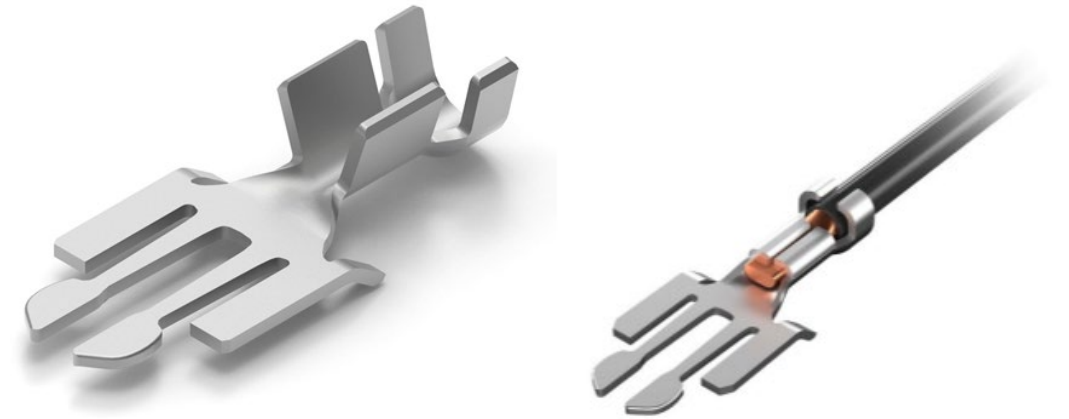
Reverse polarity protection



REDFIT CRIMP SKEDD CONNECTOR

Look into details

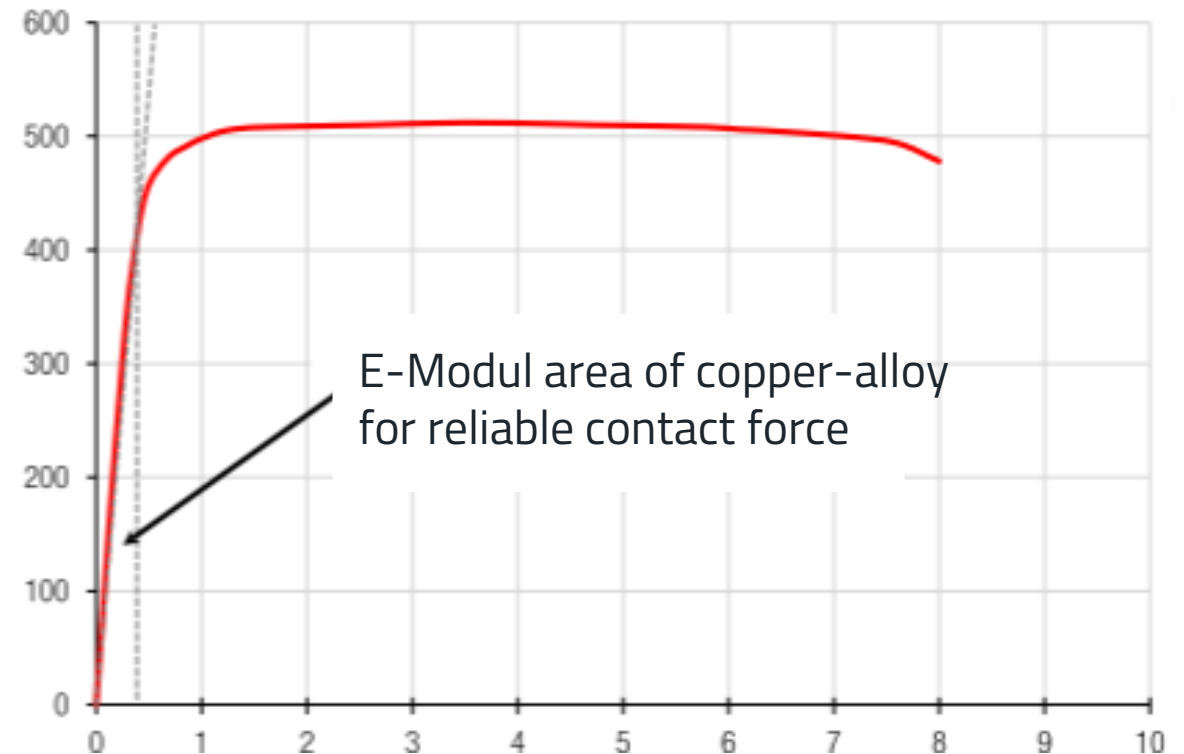
- Patented SKEDD-Technology contact
- Gastight crimp-connection on wire-side
- Cable sizes: 18-16 AWG
 $0,75\text{mm}^2 - 1,5\text{mm}^2$ *
- Material Copper-Alloy
- Contact Plating Silver (Tin for crimp-area)
- Handtool is available
- Terminals on Reels



REDFIT CRIMP SKEDD CONNECTOR

Look into details

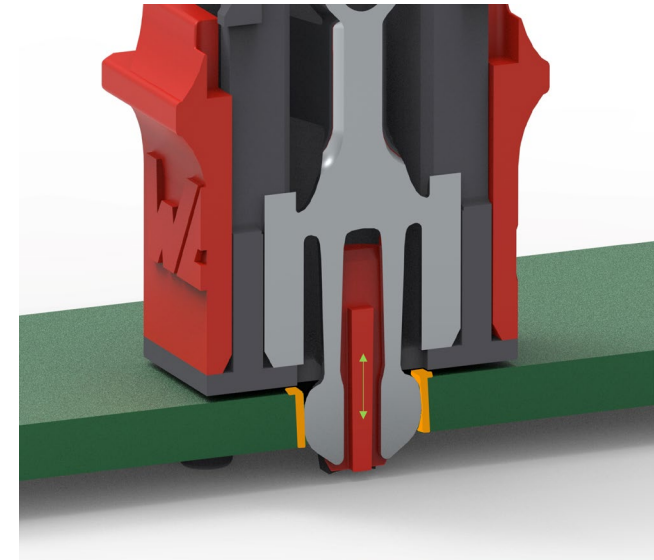
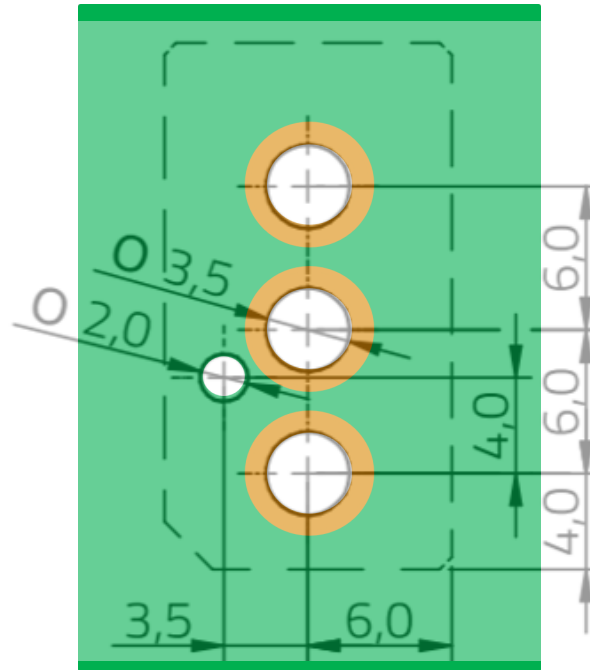
- Patented SKEDD-Technology Contact
- Gastight crimp-connection on wire-side
- Cable sizes: 18-16 AWG
0,75 – 1,5mm² *
- Material Copper-Alloy
- Contactplating Silver (Tin for crimp-area)
- Handtool is available
- Reliable contact force for low resistance
- 10 Mating Cycles *



REDFIT CRIMP SKEDD CONNECTOR

Look into details

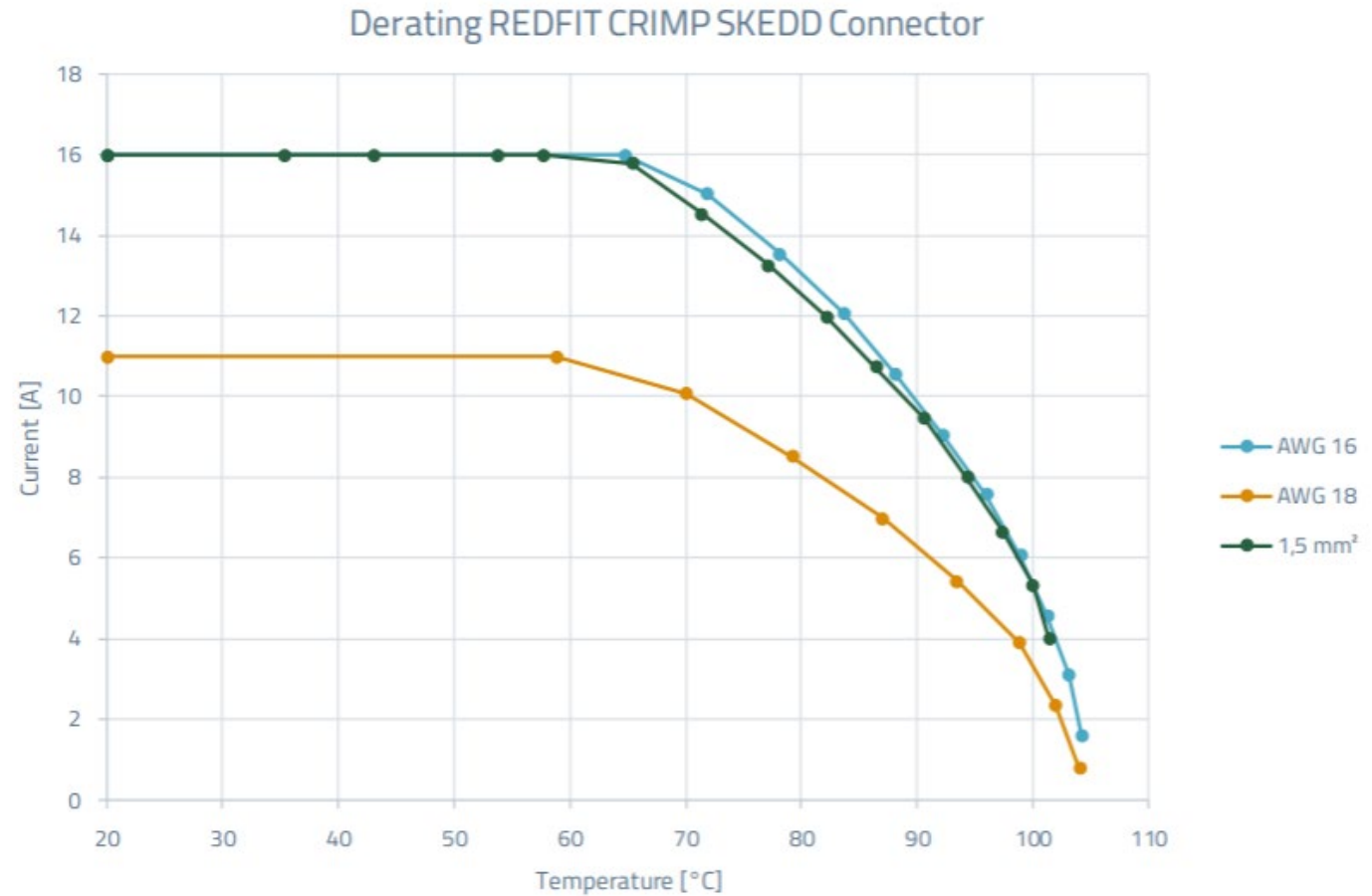
- PCB thickness 1.6mm
- Pitch 6mm
- VIA/Hole Tolerance 0,05mm
- VIA plating recommendation
 - ENIG
 - HAL
 - (Chem. Tin)
- Restring on PCB
0,1mm – 0,25mm*



REDFIT CRIMP SKEDD CONNECTOR

Qualification

- Derating of Connectors
- Range: -25°C up to 105°C
- Thermal and electrical resilience
- TIP:
Bigger wires/traces for better cooling



REDFIT CRIMP SKEDD CONNECTOR

Qualification

- Full Reliability-Test following industrial criterias by IEC 60512 / IEC 60068
- Dynamic force up to 10G
- UL and VDE compliant
- UL94-V0 and GlowWire (950°C) conformity
- Halogene-free
- Fully LEAD-free
- RoHS and REACH compliant
- Designed and made in Germany



Reliability Test Overview

ConWSP

Product series

Part Number

Product type: 491105012 / 491105015

Acceptance Criteria

#1

No physical damage and electrical property (CR, IR, WV) meets datasheet both premeasurement and postmeasurement

#2

Construction of the basic current-carrying curve

#3

No physical damage and electrical continuity acc.: EN 60512-2-5

#4

Force meets WE instruction

SN	Test item	Sample Size	Reference	Test conditions	Acceptance Criteria
1	Current loading cyclic	30	IEC 60512-9-5	wire length min. 100mm Test current: rated current 16A One cycle 45 min "ON" and 15 min "OFF" 100 cycles	#1
2	Derating	30	IEC 60512-5-2	power the device with a current until thermal stability	#2
3	Dynamic stress tests sinus vibration	30	IEC 60512-6-4 IEC 60068-2-6	Frequency rate: 10-57 Hz peak - peak 1.5 mm 67.7-2000Hz 10g Acceleration (of amplitude): max. 100m/s² (10g) Cycles: 1 octave/min 10 cycles (20, 30min) Direction: 3 test directions (+X, +Y, +Z) As the wire every 100mm	#3
4	Dynamic stress tests Shock	30	IEC 60512-6-3 IEC 60068-2-27	Form of vibration: half-sine Acceleration: 1000 m/s² (100g) Nominal pulse (D): 6ms Number of shocks: 18/shocks Direction: 6 test directions (+X, +Y, +Z)	#3
5	Dynamic stress tests Shock	30	IEC 60512-6-3 IEC 60068-2-27	Form of vibration: half-sine Acceleration: 1000 m/s² (100g) Nominal pulse (D): 6ms Number of shocks: 18/shocks Direction: 6 test directions (+X, +Y, +Z)	#3
6	Crimp Terminal Insertion Force (into housing)	5	-	Apply an axial insertion force on the terminal at a rate of 25 mm/min	#4
7	Crimp Terminal Retention Force (in housing)	5	-	Apply an axial pullout force on the terminal in the housing at a rate of 25 mm/min	#4
8	Wire Crimp Retention	5 per Core	IEC 60512-16-4	Apply an axial pullout force on the wire at a rate of 25 mm/min	#4
9	Dry Heat	30	IEC 60512-11-9 IEC 60068-2-2	Temperature: +105±2°C Duration: 500h Temperature change rate after test: max. 10K/min averaged over a period of not more than 5min Recovery time after test: min. 1h Unpowered	#1
10	Thermal Shock	30	IEC 60512-11-4 IEC 60068-2-14	Conditions: -25°C/+105°C Dwell time: 30min Cycles: 500 Transfer time: max. 20s Unpowered	#1
11	Cyclic Temperature & Humidity	30	IEC 60512-11-12 IEC 60068-2-30	Temperature: +65±2°C/+25±3°C Time/Cycle: 24h for 1 cycle Cycles: 21 Humidity: 95% RH Variant: 2 Recovery: standard atmospheric conditions Unpowered	#1

Comments:

Sample size, according to Würth internal reliability spec.
based on number of failures: zero

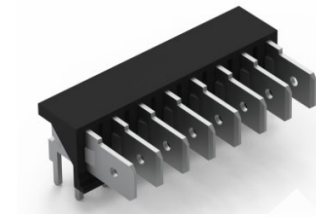
REDFIT CRIMP SKEDD CONNECTOR

Application

- Power to the PCB
- Mains-Power up to 400V AC
- Three-pase systems
- Motor-Connector
- All kind of drives
- PCBs in control cabinets
- Connection for option-boards
- Flexible Board-to-Board connection
-

Alternative for :

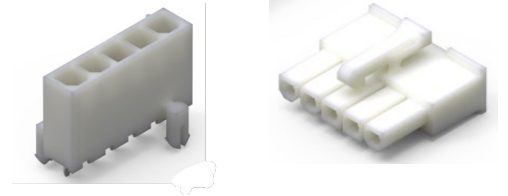
- Flat Tabs (FastOn)



- Terminal Blocks



- Any kind of 2-part WtB connectors



- Etc.

REDFIT CRIMP SKEDD CONNECTOR

- 1 to 5 Poles
- 5 colors
- Pre-crimped-cables
- Crimp connectors on reel



- Ask for your samples today !

THANK YOU

Questions ?