



# har-flexicon terminal block horizontal, screwing



## General information

PCB Terminal Block						
Design	3,50/3,81 TTSH	5,00 TTSH 1,5mm <sup>2</sup>	5,08 TTSH 2,5mm <sup>2</sup>	7,50 TTSH	10,16 TTSH	15,00 TTSH
Type	3,50/3,81 TTSH	5,00 TTSH 1,5mm <sup>2</sup>	5,08 TTSH 2,5mm <sup>2</sup>	7,50 TTSH	10,16 TTSH	15,00 TTSH
Part numbers	1402xx14402xxx 1402xx15402xxx	1402xx16402xxx	1402xx16404xxx	1402xx21404xxx	1402xx25402xxx	1402xx27402xxx
Contact pitch	3,5 mm/3,81mm	5mm	5,08mm	7,50mm	10,16mm	15mm
No. of contacts	2 - 12 poles	2 - 12 poles	2 - 8 poles	2 - 4 poles	2 - 4 poles	2 - 4 poles
Rated surge voltage (III/2) <sup>1)</sup>	2,5 kV	4 kV	4 kV	6 kV	8 kV	8 kV
Rated surge voltage (III/2) <sup>1)</sup>	2,5 kV	4 kV	4 kV	6 kV	8 kV	8 kV
Rated surge voltage (III/3) <sup>1)</sup>	2,5 kV	4 kV	4 kV	6 kV	8 kV	8 kV
Rated Voltage	300 V	300 V	300 V	300 V	600 V	600 V
Rated voltage (II/2) <sup>1)</sup>	300 V	600 V	600 V	1000 V	1000 V	1000 V
Rated voltage (III/2) <sup>1)</sup>	150 V	300 V	300 V	600 V	1000 V	1000 V
Rated voltage (III/3) <sup>1)</sup>	150 V	220 V	300 V	400 V	1000 V	1000 V
Working current	12 A	13,5 A	17,5 A	17,5 A	60 A	135 A
Usegroup B, rated voltage / current	300 V / 12 A	300 V / 13,5 A	300 V / 17,5 A	300 V / 17,5 A	300 V / 60 A	600 V / 135 A
Usegroup C, rated voltage / current	- / -	- / -	- / -	150 V / 17,5 A	300 V / 60 A	600 V / 135 A
Usegroup D, rated voltage / current	300 V / 12 A	300 V / 13,5 A	300 V / 17,5 A	300 V / 17,5 A	600 V / 5 A	- / -
Contact resistance	max. 15 mOhm					
Insulation resistance	min. 10 <sup>9</sup> Ohm (500 V DC)					
Temperature range	-40°C ... +110°C					
Termination technology	THR Reflow					
PCB thickness	-	-	-	-	max. 2,4mm	max. 2,4mm
Insertion force	n.a					
Withdrawal force	n.a					
Hot plugging	No					
Mechanical Shock IEC 61373 (05/10)	5 g, 30 ms, 5 shocks/axis and each direction no contact disturbance >= 1µs					
Random Vibration IEC 61373 (05/10)	Cat 1 class B 5,72m/s <sup>2</sup> no contact disturbance >= 1µs					

RoHS - compliant	Yes
UL file	E314677

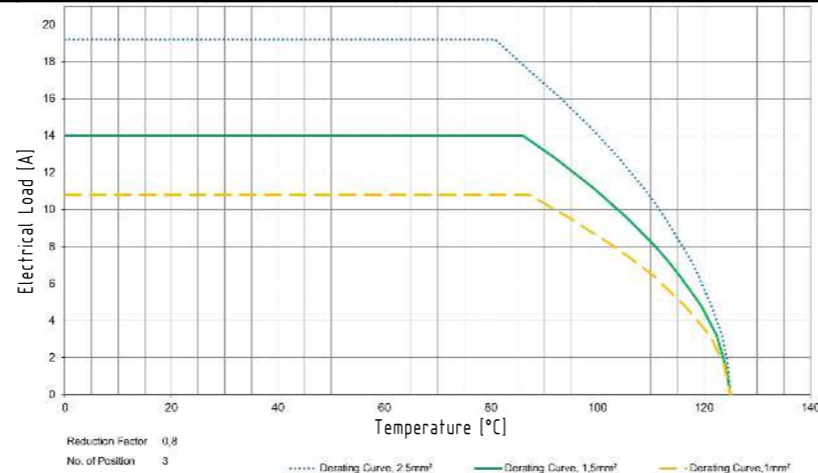
Insulator material	
Material	PA/PPA
Color	black
Moisture Sensitivity Level (MSL)	1
UL classification	UL 94-V0
Material group acc. to IEC 60664-1	I (CTI > 600)

Contact material	
Contact material	Copper alloy
Plating termination zone	Sn
Plating contact zone	Ni

## Derating

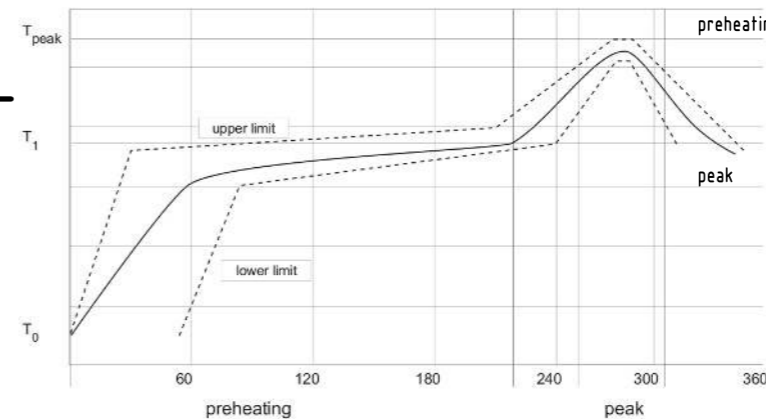
The current carrying capacity is limited by maximum temperature of materials for inserts and contacts including terminals.  
The current capacity curve is valid for continuous, non interrupted current loaded contacts of connectors when simultaneous power on all contacts is given, without exceeding the maximum temperature.

Control and test procedures according to DIN IEC 60512-5



<sup>1)</sup>(overvoltage cat. / pollution degree)

## Soldering instructions for lead-free tin soldering



T0	25°C (77°F)
T1	from 150°C (302°F) to 190°C (374°F)
time gradient	from 150s to 180s
	1,5°C/s (34°F/s)
Tpeak	from 260°C (500°F) to 275°C (527°F)
time	from 10s to 30s

har-flexicon products with pure tin plated pins without lead, can be soldered by a lead-free reflow process, with a peak temperature till 275°C/527°F according to the related profile.

## Cable connection

Type	3,50/3,81 TTSH	5,00 TTSH 1,5mm <sup>2</sup>	5,08 TTSH 2,5mm <sup>2</sup>	7,50 TTSH	10,16 TTSH	15,00 TTSH
Part numbers	1402xx14402xxx 1402xx15402xxx	1402xx16402xxx	1402xx16404xxx	1402xx21404xxx	1402xx25402xxx	1402xx27402xxx
Conductor size AWG max	16 AWG	16 AWG	12 AWG	12 AWG	6 AWG	1 AWG
Conductor size AWG min	28 AWG	30 AWG	30 AWG	30 AWG	20 AWG	20 AWG
Conductor size solid max	1,5 mm <sup>2</sup>	1,5 mm <sup>2</sup>	2,5 mm <sup>2</sup>	2,5 mm <sup>2</sup>	16 mm <sup>2</sup>	35 mm <sup>2</sup>
Conductor size solid min	0,05 mm <sup>2</sup>	0,05 mm <sup>2</sup>	0,05 mm <sup>2</sup>	0,05 mm <sup>2</sup>	0,5 mm <sup>2</sup>	0,5 mm <sup>2</sup>
Conductor size stranded max	1 mm <sup>2</sup>	1,0 mm <sup>2</sup>	2,5 mm <sup>2</sup>	2,5 mm <sup>2</sup>	10 mm <sup>2</sup>	25 mm <sup>2</sup>
Conductor size stranded min	0,05 mm <sup>2</sup>	0,05 mm <sup>2</sup>	0,05 mm <sup>2</sup>	0,05 mm <sup>2</sup>	0,5 mm <sup>2</sup>	0,5 mm <sup>2</sup>
Conductor size stranded for end sleeve						
Stripping length max	6 mm	6 mm	6,5 mm	6,5 mm	11,5 mm	18 mm
Stripping length min	5 mm	5 mm	5,5 mm	5,5 mm	10,5 mm	18 mm
Screw thread	M2	M3	M3	M3	M4	M5
Tightening Torque max	0,25 Nm	0,6 Nm	0,6 Nm	0,6 Nm	1,5 Nm	2,5 Nm
Tightening Torque min	0,20 Nm	0,5 Nm	0,5 Nm	0,5 Nm	1,2 Nm	2,1 Nm

## Packaging unit

### types 3.50/3.81/5.00/5.08 TTSH

Type of packaging	No. of poles (xx)	Quantity	Index (xxx)	Remark
box	2	300	000	
box	3	200	000	
box	4 - 5	150	000	
box	6 - 12	100	000	

### types 7.50 TTSH

Type of packaging	No. of poles (xx)	Quantity	Index (xxx)	Remark
box	2	200	000	
box	3	150	000	
box	4	100	000	

### type 10.16 TTSH

Type of packaging	No. of poles (xx)	Quantity	Index (xxx)	Remark
box	2 - 3	50	000	
box	4	40	000	

### type 15.00 TTSH

Type of packaging	No. of poles (xx)	Quantity	Index (xxx)	Remark
box	2	50	000	
box	3	40	000	
box	4	30	000	

1402xx14402xxx

	All Dimensions in mm Original Size DIN A3	Scale 1:1	Free size tol.	Ref.
	All rights reserved Department EL PD	Created by ZHUANGJ	Inspected by LUOK	Standardisation 302077
		Date 2020-11-23	State Final Release	
		Title har-flexicon terminal block horizontal, screwing		Doc-Key / ECM-Nr. 100542555/UGD/001/H 500000183169
		Type DS	Number 14027301801	Rev. H
				Page 1/2

HARTING Electronics GmbH

D-32339 Espelkamp

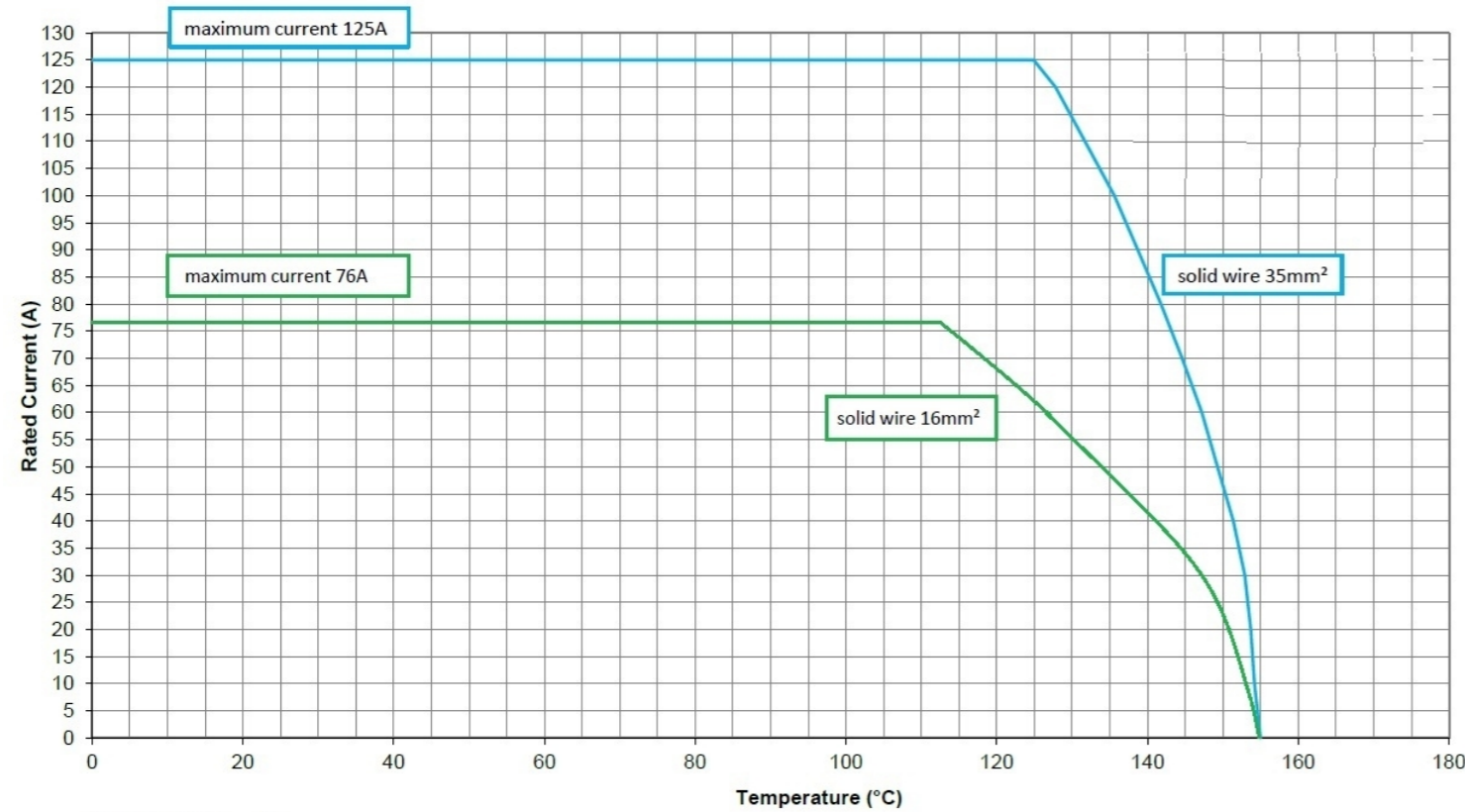
# har-flexicon terminal block horizontal, screwing



## Derating for solid wire 16mm<sup>2</sup> and 35mm<sup>2</sup>

The current carrying capacity is limited by maximum temperature of materials for inserts and contacts including terminals.  
The current capacity curve is valid for continuous, non interrupted current loaded contacts of connectors when simultaneous power on all contacts is given, without exceeding the maximum temperature.

Control and test procedures according to DIN IEC 60512-5



No. of position 3

	All rights reserved Department EL PD	All Dimensions in mm Original Size DIN A3		Scale 1:1	Free size tol.	Ref.
		Created by ZHUANGJ	Inspected by LUOK	Standardisation 302077	Date 2020-11-23	State Final Release
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