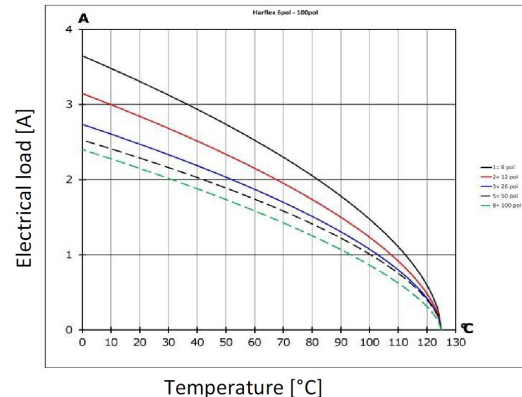


1	2	3	4	5	6	7	8																																								
har-flex[®]straight male connector RoHS compliant				RECOMMENDATION FOR SOLDER PROCESSING Solder paste recommendation The har-flex connectors are solderable with established lead-free SAC / SnNi solder but also leaded solder e.g. SnPb40 PCB pad plating The har-flex connectors are solderable on lead-free pad surfaces like HAL, NiAu, Immersion Sn. Stencil recommendation The solder deposition has to be placed on the pad area of the contact solder tines. Ideally, the solder deposition has the same length-to-width ratio and center point like the PCB pads. The size of the solder stencil apertures is depending on the thickness of the stencil. In general, the thinner stencils will need larger apertures to result in the required volume of solder paste. The minimum required solder paste volume for the signal pins is 0,094mm³, for the hold down it is 0,33mm³. For example, this can be achieved with the following stencil data : <table><tr><td></td><td colspan="3">Signal pins</td></tr><tr><td>Stencil thickness</td><td>PCB pad size</td><td>proposal stencil aperture size</td><td>calculated solder paste volume</td></tr><tr><td>120 µm</td><td>1,1 x 0,8 mm</td><td>1,05 x 0,75 mm</td><td>0,095 mm³</td></tr><tr><td>150 µm</td><td>1,1 x 0,8 mm</td><td>0,99 x 0,72 mm</td><td>0,107 mm³</td></tr></table> <table><tr><td></td><td colspan="3">Hold-downs</td></tr><tr><td>Stencil thickness</td><td>PCB pad size</td><td>proposal stencil aperture size</td><td>calculated solder paste volume</td></tr><tr><td>120 µm</td><td>2,5 x 1,2 mm</td><td>2,45 x 1,15 mm</td><td>0,338 mm³</td></tr><tr><td>150 µm</td><td>2,5 x 1,2 mm</td><td>2,25 x 1,08 mm</td><td>0,365 mm³</td></tr></table> If a stencil with lower thickness shall be used, please insure the minimum required solder paste volume by enlarging the stencil aperture. Depending on the PCB design, the solder depostion may protrude the PCB pads. But to achieve a good sealing during solder paste printing and to reduce the cleaning interval of the stencil, the aperture should be smaller than the PCB pad about 10% or 25µm encircling.					Signal pins			Stencil thickness	PCB pad size	proposal stencil aperture size	calculated solder paste volume	120 µm	1,1 x 0,8 mm	1,05 x 0,75 mm	0,095 mm ³	150 µm	1,1 x 0,8 mm	0,99 x 0,72 mm	0,107 mm ³		Hold-downs			Stencil thickness	PCB pad size	proposal stencil aperture size	calculated solder paste volume	120 µm	2,5 x 1,2 mm	2,45 x 1,15 mm	0,338 mm ³	150 µm	2,5 x 1,2 mm	2,25 x 1,08 mm	0,365 mm ³								
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DERATING DIAGRAM acc. to IEC 60512-5 (Current carrying capacity) 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 derating curve at I_{max}*0,8 (IEC 60512-5-2) 																																															
har flex male stacking height1.75 and 3.25 HARTING Electronics GmbH D-32339 Espelkamp All rights reserved Department EC PD - CN Created by ZHUANGJ Inspected by LUOK Standardisation HOFFMANN Date 2018-05-21 State Final Release Type DS Number 15111100301 Doc-Key / ECM-Nr. 100577896/UGD/001/B 500000135280 Rev. B Page 1/2																																															
1	2	3	4	5	6	7	8																																								



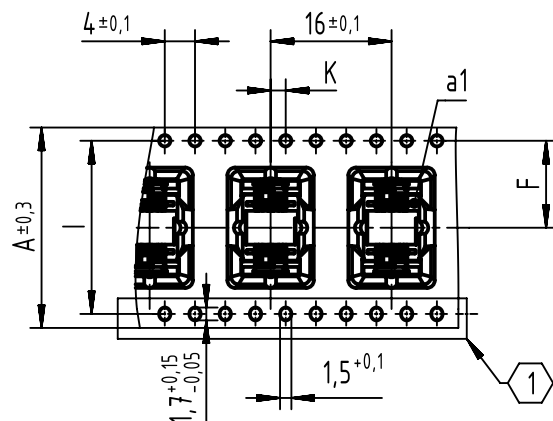
har-flex® straight male connector



TAPE LAYOUT & PACKAGING

Tape acc. to IEC 60286-3

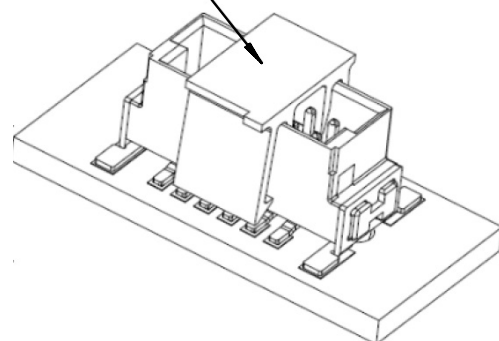
Reel off direction



Tape dimensions:	A	F	I	K
poles 06 to 12	24,0	11,5±0,1	-	2±0,1
poles 14 to 20	32,0	14,2±0,1	28,4	2±0,1
poles 22 to 40	44,0	20,2±0,15	40,4	2±0,15
poles 42 to 56	56,0	26,2±0,15	52,4	2±0,15
poles 58 to 80	72,0	34,2±0,3	68,4	2±0,2
poles 82 to 100	88,0	42,2±0,3	84,4	2±0,2

1 NO DOUBLE SPROCKET HOLES FOR 06, 08, 10 AND 12 POLE NUMBERS (TAPE SIZE 24)

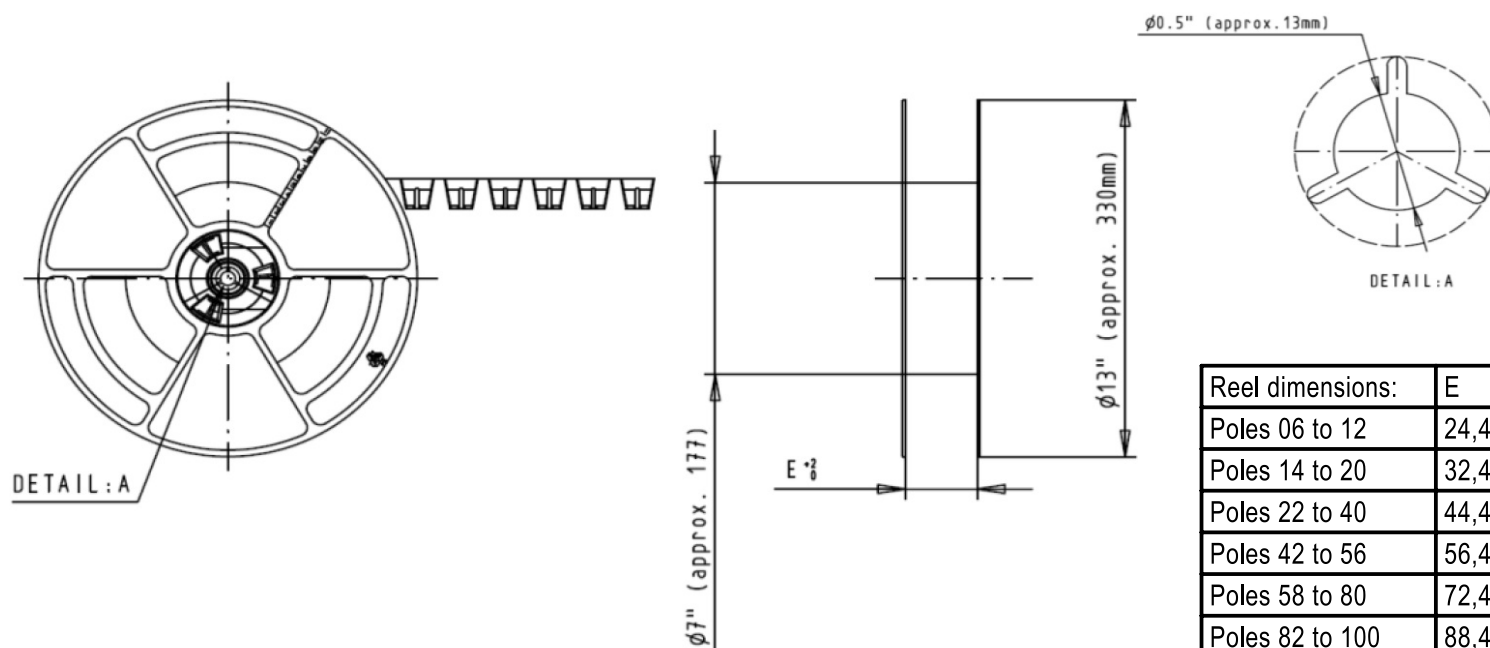
Pick & place pad 6,4±0,1 x 4,5±0,1



Packaging indices ("XXX" in part number)

Index	Packaging unit	Packaging
000	280	Tape & reel
333	1	Tape

REEL DIMENSIONS

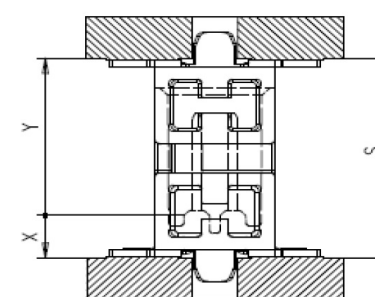


Reel dimensions:	E
Poles 06 to 12	24,4
Poles 14 to 20	32,4
Poles 22 to 40	44,4
Poles 42 to 56	56,4
Poles 58 to 80	72,4
Poles 82 to 100	88,4

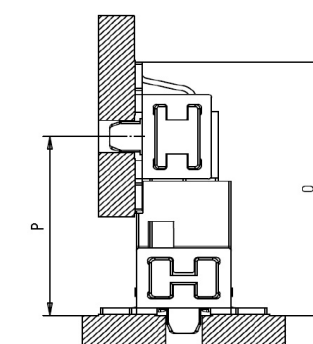
APPLICATION INFORMATION

S	14mm				
	13mm				
	12mm				
	11mm				
	10mm				
	9mm				
	8mm				
X & Y	stacking heights	male 1.75mm female 6.25mm	male 3.25mm female 6.25mm	male 1.75mm female 9.05mm	male 3.25mm female 9.05mm
S	PCB distance	8mm - 9.5mm	9.5mm - 11mm	10.8mm - 12.3mm	12.3mm - 13.8mm
	part numbers	15 11 ... 15 21 ...	15 12 ... 15 21 ...	15 11 ... 15 22 ...	15 12 ... 15 22 ...

straight female



angled female



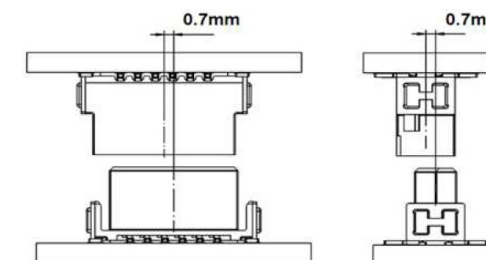
straight male

3,25	9,05	12,3	13,8
1,75	9,05	10,8	12,3
3,25	6,5	9,5	11
1,75	6,25	8	9,5
X	Y	Smin	* Smax

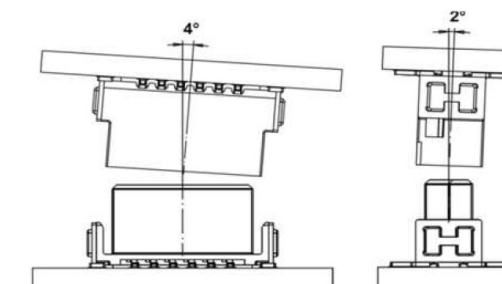
3,25	10,25	14,08
1,75	8,75	12,58
X	P min.	0

*Smax = Smin +1.5 wiping length with additional contact overlap security

Admissible inclination



Admissible mismatching



		All Dimensions in mm Original Size DIN A3		Scale 1:1		Free size tol.		Ref.	
		All rights reserved		Created by ZHUANGJ		Inspected by LUOK		Standardisation HOFFMANN	
		Department EC PD - CN		Date 2018-05-21		State Final Release		Sub.	
HARTING Electronics GmbH D-32339 Espelkamp		Title har flex male stacking height1.75 and 3.25						Doc-Key / ECM-Nr. 100577896/UGD/001/B 500000135280	
		Type DS		Number 15111100301				Rev. B	
								Pag 2/	

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

HARTING:

<u>15111002601000</u>	<u>15121002601000</u>	<u>15110062601000</u>	<u>15110082601000</u>	<u>15110102601000</u>	<u>15110122601000</u>
<u>15110142601000</u>	<u>15110162601000</u>	<u>15110182601000</u>	<u>15110202601000</u>	<u>15110222601000</u>	<u>15110242601000</u>
<u>15110262601000</u>	<u>15110282601000</u>	<u>15110302601000</u>	<u>15110322601000</u>	<u>15110362601000</u>	<u>15110382601000</u>
<u>15110422601000</u>	<u>15110442601000</u>	<u>15110462601000</u>	<u>15110482601000</u>	<u>15110502601000</u>	<u>15110522601000</u>
<u>15110542601000</u>	<u>15110562601000</u>	<u>15110582601000</u>	<u>15110602601000</u>	<u>15110622601000</u>	<u>15110642601000</u>
<u>15110662601000</u>	<u>15110682601000</u>	<u>15110702601000</u>	<u>15110722601000</u>	<u>15110742601000</u>	<u>15110762601000</u>
<u>15110782601000</u>	<u>15110802601000</u>	<u>15110822601000</u>	<u>15110842601000</u>	<u>15110862601000</u>	<u>15110882601000</u>
<u>15110902601000</u>	<u>15110922601000</u>	<u>15110942601000</u>	<u>15110962601000</u>	<u>15110982601000</u>	<u>15120062601000</u>
<u>15120082601000</u>	<u>15120102601000</u>	<u>15120122601000</u>	<u>15120142601000</u>	<u>15120162601000</u>	<u>15120182601000</u>
<u>15120202601000</u>	<u>15120222601000</u>	<u>15120242601000</u>	<u>15120262601000</u>	<u>15120282601000</u>	<u>15120302601000</u>
<u>15120322601000</u>	<u>15120342601000</u>	<u>15120362601000</u>	<u>15120382601000</u>	<u>15120402601000</u>	<u>15120422601000</u>
<u>15120442601000</u>	<u>15120462601000</u>	<u>15120482601000</u>	<u>15120502601000</u>	<u>15120522601000</u>	<u>15120542601000</u>
<u>15120562601000</u>	<u>15120582601000</u>	<u>15120602601000</u>	<u>15120622601000</u>	<u>15120642601000</u>	<u>15120662601000</u>
<u>15120682601000</u>	<u>15120702601000</u>	<u>15120722601000</u>	<u>15120742601000</u>	<u>15120762601000</u>	<u>15120782601000</u>
<u>15120802601000</u>	<u>15120822601000</u>	<u>15120842601000</u>	<u>15120862601000</u>	<u>15120882601000</u>	<u>15120902601000</u>
<u>15120922601000</u>	<u>15120942601000</u>	<u>15120962601000</u>	<u>15120982601000</u>	<u>15120162601333</u>	



Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

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Факс: 8 (812) 320-02-42

Электронная почта: org@eplast1.ru

Адрес: 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.