

# D-Sub

## Right Angle Surface Mount Connector RoHS Compliant

### Economical Interface Solution for SMT Applications



#### General

Modern Sub Rack Technology is increasing the demand for SMT components along with the requirement for the connectors supporting this technology. ERNI is meeting the need by developing a new generation of the classic I/O D-Sub connector which uses surface mount technology. SMT connectors are designed specifically for fully automatic assembly and solder process:

- Pick and Place area for vacuum pipette
- Tray packaging for automatic feeding of PCB assembly machines
- Black insulator for mating and cable force absorption
- Metal bracket for tilt-free positioning which also absorbs mating forces
- High Temperature plastic housing
- Well balanced for not tilting during assembly and solder process

#### Technical Characteristics

- Configurations: 9, 15, 25 and 37 pin
- Assembly Heights:
  - Standard: 7.3 mm for 4HP Subunits
  - Eurostyle: 3.6mm for 3HP Subunits
- Design acc. to DIN 41652 and CECC 75301-802



## Electrical And Mechanical Characteristics

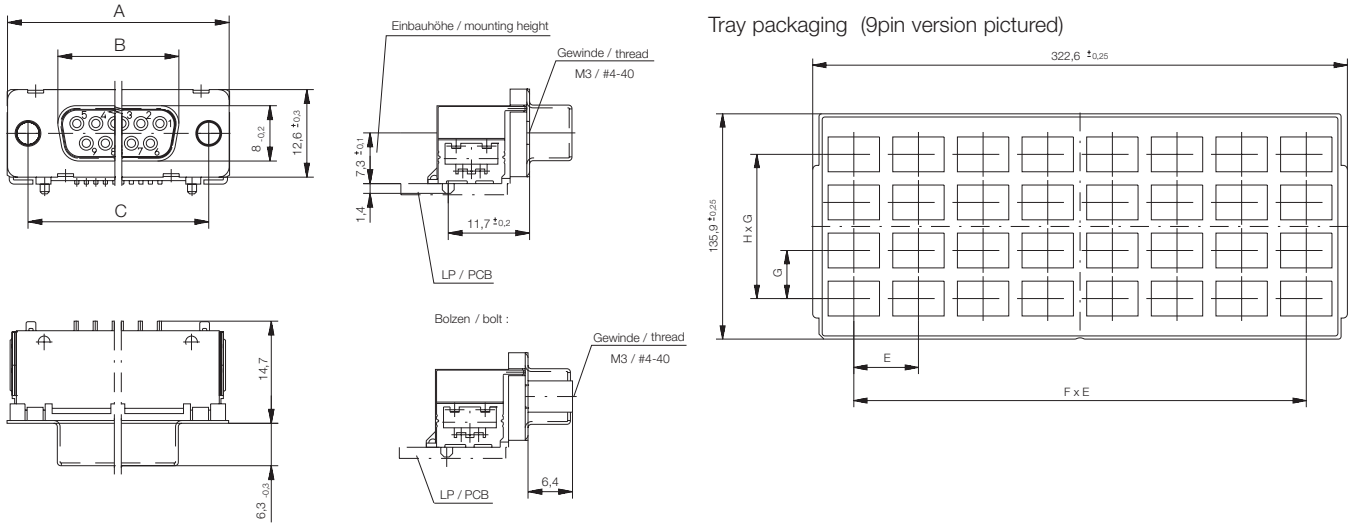
	Standard	SMT Male- and Female
Number of pins		9, 15, 25 and 37
<b>Technical data</b>		
Climate category	DIN EN 60068-1 test b	-55/125/56
Bearing and operating temperature area		-55/125 °C
Current rating	IEC60512 test 5b	By ambient temperature: 20 °C 3.5 A 70 °C 2.5 A 100 °C 1.5 A
Air- and creepage distance		1.2 mm
Comperative figure of voltage	IEC 112	CTI 200
Voltage rating	IEC 60664	Has to be determined according to client-specific using case (degree of environmental pollution) according to IEC 60664
Dielectric strength	IEC 60512 test 4a	contact - contact 1000 V <sub>rms</sub> contact - ground 1200 V <sub>rms</sub>
Contact resistance	IEC 60512 test 2a	< 25 mΩ
Insulation resistance	IEC 60512 test 3a	> 5x10 <sup>9</sup> MΩ
Vibration, sine	IEC 60512 test 6d	10 – 2000 Hz 20 g
Contact disturbance (while vibration sine)	IEC 60512 test 2e	< 1 μs
Shock, halfsine	IEC 60512 test 6c	50 g 11 ms
Contact disturbance (while shock halfsine)	IEC 60512 test 2e	< 1 μs
Mechanical operation (mating cycles)	IEC 60512 test 9a	> 250 mating cycles
Insertion and withdrawal force	IEC 60512 test 13b	9 cont.: 30 N max. 15 cont.: 50 N max. 25 cont.: 83 N max. 37 cont.: 123 N max.
Gauge retention force	IEC 60512 test 16e	> 0.2 N

## Electrical And Mechanical Characteristics

	Standard	SMT Male- and Female
Number of pins		9, 15, 25 and 37
<b>Process-conditions</b>		
Solder temperature max.	IEC 68-2-20	
Hand soldering temperature max.		3.5 s at 350°C
Dip soldering temperature max.		10 s at 260°C
Reflow soldering temperature max.		10 s at 260°C
Coplanarity of SMT		< 0.1 mm
<b>Materials</b>		
Housing: Plastic material (symbol)		LCP
CTI value	IEC 112	CTI 200
UL flame rating		UL 94 V-0
UL file		E83005
<b>Contact</b>		
Base material		Cu alloy
Mating area		Gold plated
Termination area		Sn lead-free
<b>Metal shell</b>		
Base material		St
Plating		Sn lead-free
<b>Metal bracket</b>		
Base material		Cu alloy
Plating		Sn lead-free
<b>Environment compatibility</b>		
Recycling		no flame-retardant additives, no toxic additives allow easy recycling
<b>Product-approval</b>		
UL		in preparation

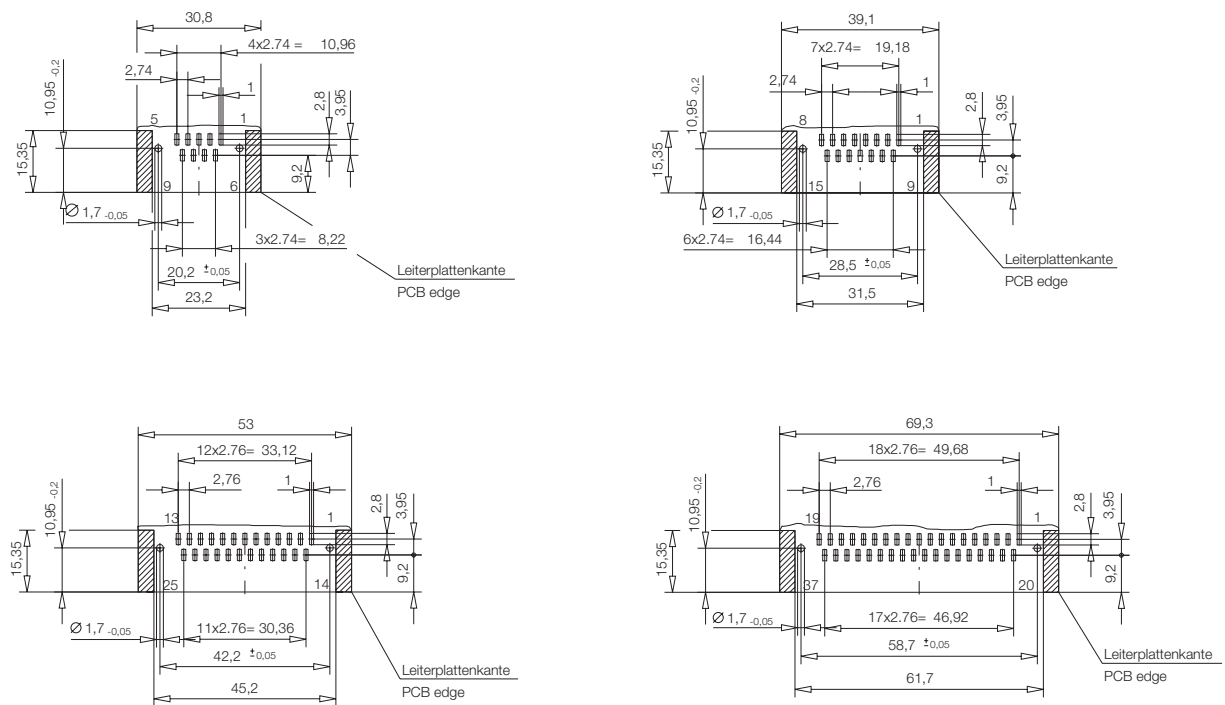
# Right Angle Female Standard SMT Connectors

## Dimensions



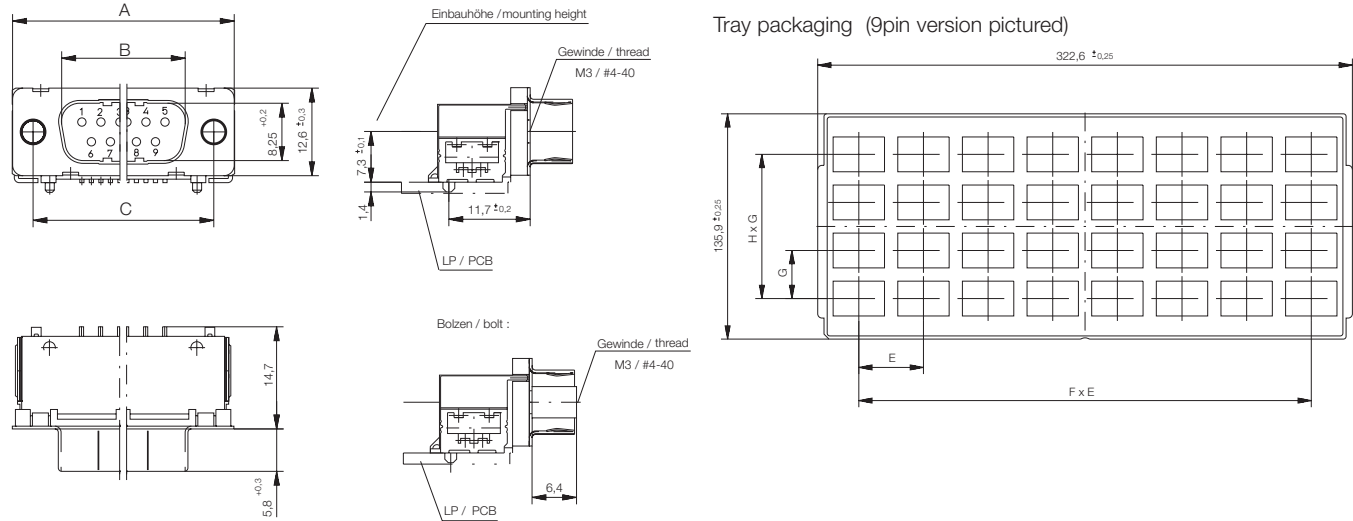
Dimension	Pin Configuration			
	9 pin	15 pin	25 pin	37 pin
A ±0.3	30.8	39.1	53.0	69.3
B -0.2	16.8	25.1	38.9	55.3
C ±0.2	25.0	33.3	47.0	63.5
E	36	44	58	73.5
F	7	5	4	3
G	28	28	28	28
H	3	3	3	3
Packaging unit	32	24	20	16

## PCB Layouts

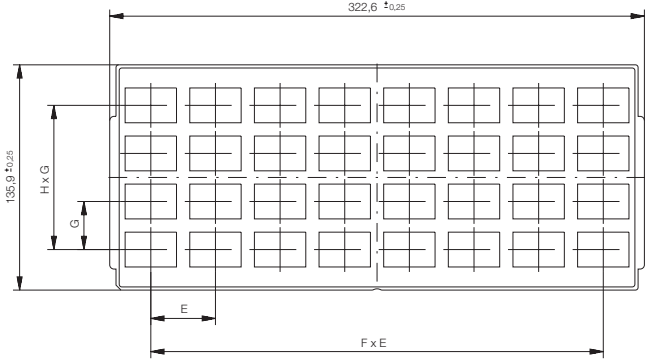


# Right Angle Male Standard SMT Connectors

## Dimensions

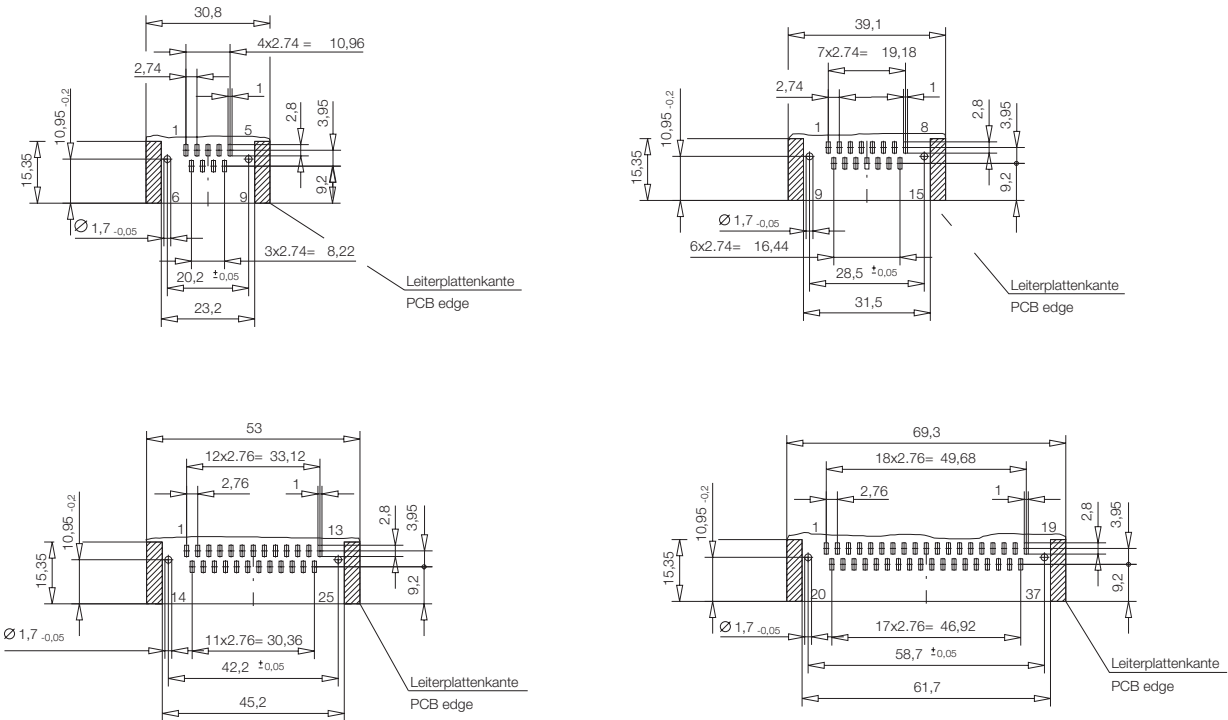


Tray packaging (9pin version pictured)



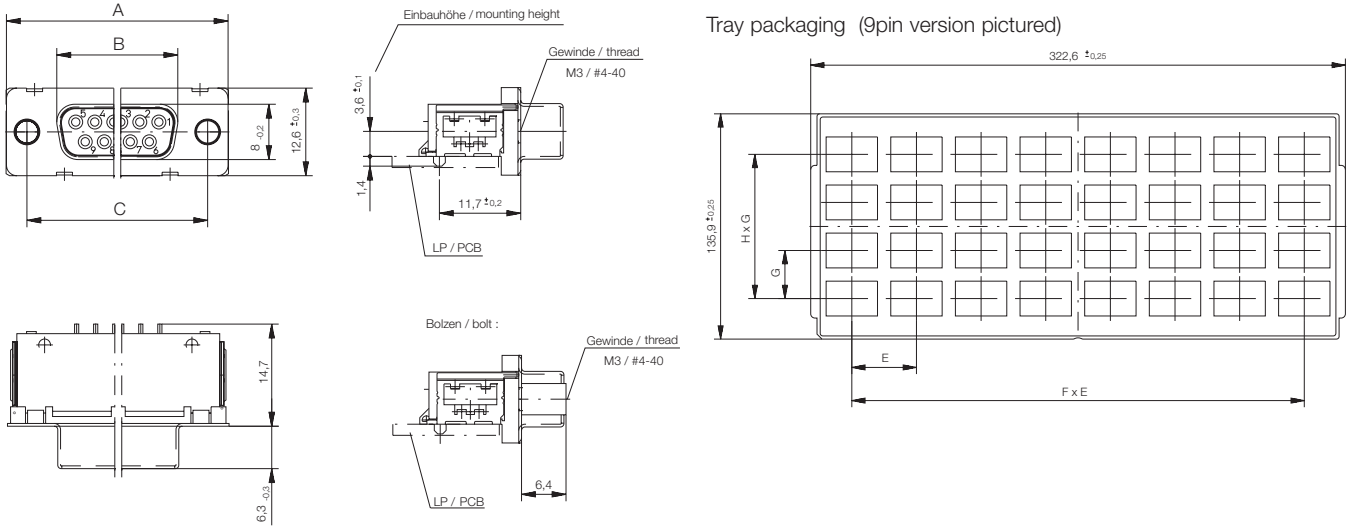
Dimension	Pin Configuration			
	9 pin	15 pin	25 pin	37 pin
A ±0.3	30.8	39.1	53.0	69.3
B -0.2	16.8	25.1	38.9	55.3
C ±0.2	25.0	33.3	47.0	63.5
E	36	44	58	73.5
F	7	5	4	3
G	28	28	28	28
H	3	3	3	3
Packaging unit	32	24	20	16

## PCB Layout



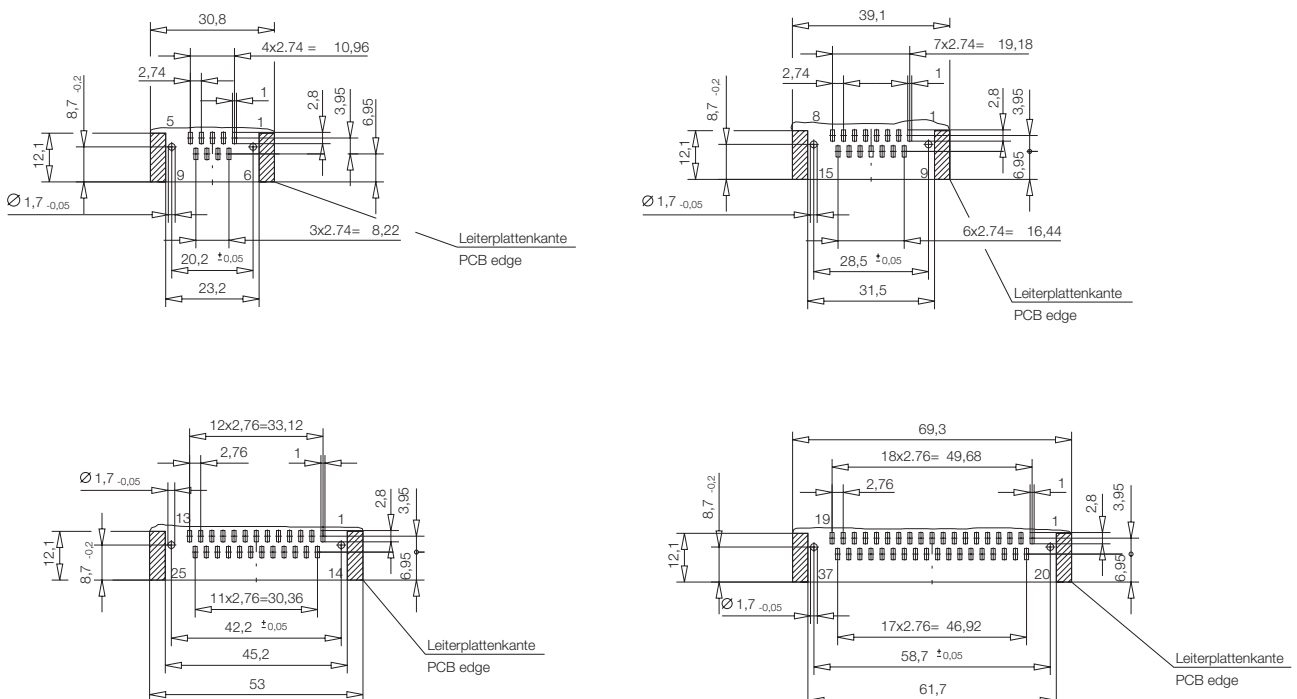
# Right Angle Female Eurostyle SMT Connectors

## Dimensions



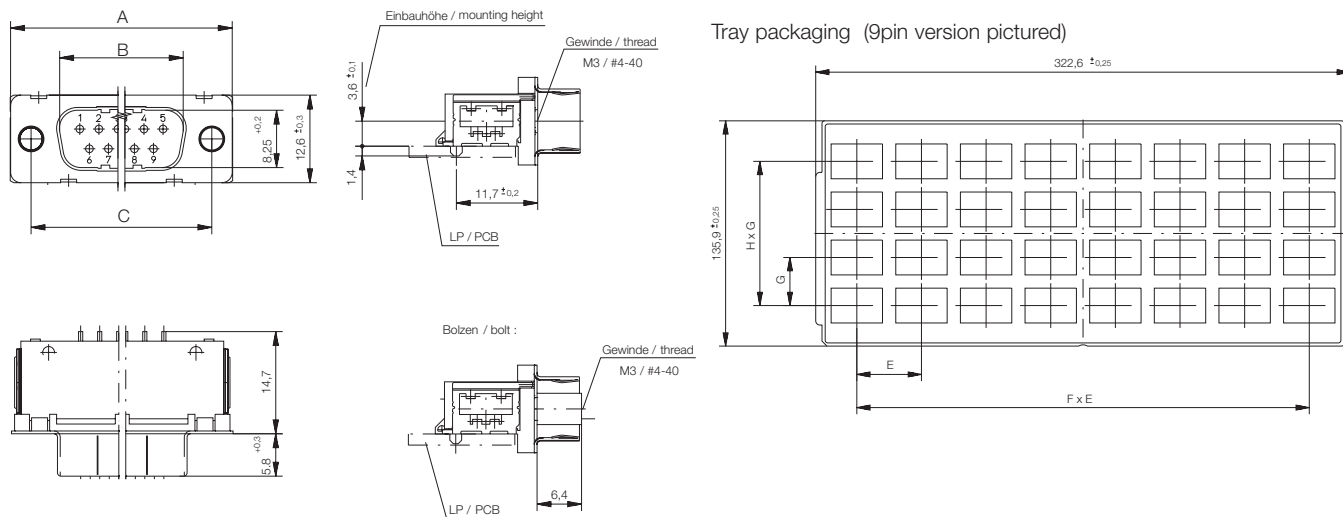
Dimension	Pin Configuration			
	9 pin	15 pin	25 pin	37 pin
A ±0.3	30.8	39.1	53.0	69.3
B -0.2	16.8	25.1	38.9	55.3
C ±0.2	25.0	33.3	47.0	63.5
E	36	44	58	73.5
F	7	5	4	3
G	28	28	28	28
H	3	3	3	3
Packaging unit	32	24	20	16

## PCB Layout



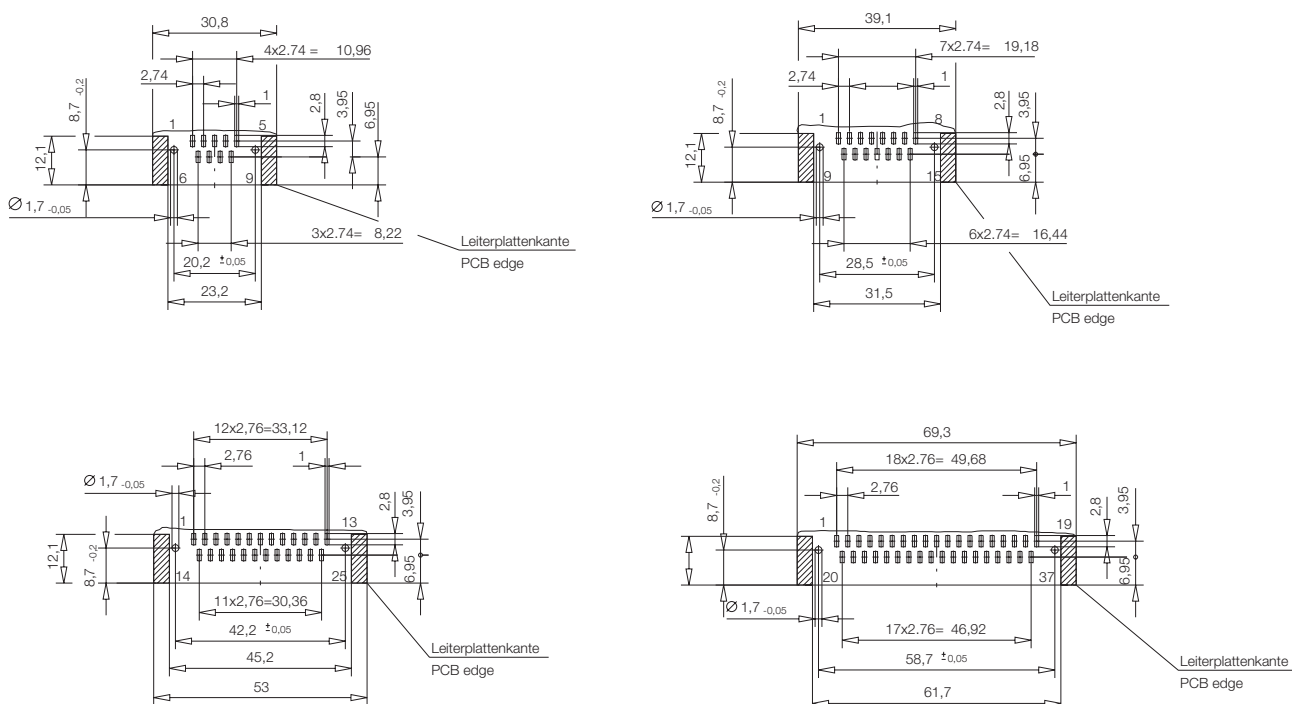
# Right Angle Male Eurostyle SMT Connectors

## Dimensions



Dimension	Pin Configuration			
	9 pin	15 pin	25 pin	37 pin
A ±0.3	30.8	39.1	53.0	69.3
B -0.2	16.8	25.1	38.9	55.3
C ±0.2	25.0	33.3	47.0	63.5
E	36	44	58	73.5
F	7	5	4	3
G	28	28	28	28
H	3	3	3	3
Packaging unit	32	24	20	16

## PCB Layout





## Ordering Information

### Standard (Assembly height 7.3 mm)

#### SMT Female Connectors

Number of Pins	Thread	Tray Packaged	Part Number
9	M3	32 pcs	154235
9	4-40#	32 pcs	154236
9	Bolt / M3	32 pcs	154237
9	Bolt / 4-40#	32 pcs	154238
9	without	32 pcs	174440
15	M3	24 pcs	154239
15	4-40#	24 pcs	154240
15	Bolt / M3	24 pcs	154241
15	Bolt / 4-40#	24 pcs	154242
15	without	24 pcs	174441
25	M3	20 pcs	154243
25	4-40#	20 pcs	154244
25	Bolt / M3	20 pcs	154245
25	Bolt / 4-40#	20 pcs	154246
25	without	20 pcs	174442
37	M3	16 pcs	154247
37	4-40#	16 pcs	154248
37	Bolt / M3	16 pcs	154249
37	Bolt / 4-40#	16 pcs	154250
37	without	16 pcs	174443

#### SMT Male Connectors

Number of Pins	Thread	Tray Packaged	Part Number
9	M3	32 pcs	154187
9	4-40#	32 pcs	154188
9	Bolt / M3	32 pcs	154189
9	Bolt / 4-40#	32 pcs	154190
9	without	32 pcs	174416
15	M3	24 pcs	154191
15	4-40#	24 pcs	154192
15	Bolt / M3	24 pcs	154193
15	Bolt / 4-40#	24 pcs	154194
15	without	24 pcs	174417
25	M3	20 pcs	154195
25	4-40#	20 pcs	154196
25	Bolt / M3	20 pcs	154197
25	Bolt / 4-40#	20 pcs	154198
25	without	20 pcs	174418
37	M3	16 pcs	154199
37	4-40#	16 pcs	154200
37	Bolt / M3	16 pcs	154201
37	Bolt / 4-40#	16 pcs	154202
37	without	16 pcs	174419

### Eurostyle (Assembly height 3.6 mm)

#### SMT Female Connectors

Number of Pins	Thread	Tray Packaged	Part Number
9	M3	32 pcs	214643
9	4-40#	32 pcs	204773
9	Bolt / M3	32 pcs	154141
9	Bolt / 4-40#	32 pcs	154142
9	without	32 pcs	174428
15	M3	24 pcs	214644
15	4-40#	24 pcs	204774
15	Bolt / M3	24 pcs	154145
15	Bolt / 4-40#	24 pcs	154146
15	without	24 pcs	174429
25	M3	20 pcs	214645
25	4-40#	20 pcs	204775
25	Bolt / M3	20 pcs	154149
25	Bolt / 4-40#	20 pcs	154150
25	without	20 pcs	174430
37	M3	16 pcs	214646
37	4-40#	16 pcs	204776
37	Bolt / M3	16 pcs	154153
37	Bolt / 4-40#	16 pcs	154154
37	without	16 pcs	174431

#### SMT Male Connectors

Number of Pins	Thread	Tray Packaged	Part Number
9	M3	32 pcs	214639
9	4-40#	32 pcs	204769
9	Bolt / M3	32 pcs	154093
9	Bolt / 4-40#	32 pcs	154094
9	without	32 pcs	174501
15	M3	24 pcs	214640
15	4-40#	24 pcs	204770
15	Bolt / M3	24 pcs	154097
15	Bolt / 4-40#	24 pcs	154098
15	without	24 pcs	174405
25	M3	20 pcs	214641
25	4-40#	20 pcs	204771
25	Bolt / M3	20 pcs	154101
25	Bolt / 4-40#	20 pcs	154102
25	without	20 pcs	174406
37	M3	16 pcs	214642
37	4-40#	16 pcs	204772
37	Bolt / M3	16 pcs	154105
37	Bolt / 4-40#	16 pcs	154106
37	without	16 pcs	174407

Connectors also available in Tape and Reel packaging.