

Functional Characteristics



Dimensional Class:
Low



Standard Colour:
Green



Height:
10 mm (.394 in)



Max Approved Wire sections:
Solid: 1.5 mm² (IMQ); 15 AWG (CSA)
Stranded 1 mm² (IMQ); 15 AWG (CSA)
Stranded 1.5 mm² (IMQ); 14 AWG (UL) 55° version

Clamp Opening Size:
2.5 x 1.7 mm (.098 x .067 in)
2.5 x 1.9 mm (.098 x .075 in) 55° version



Versions:
Side Stackable,
Modular



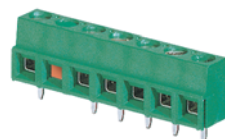
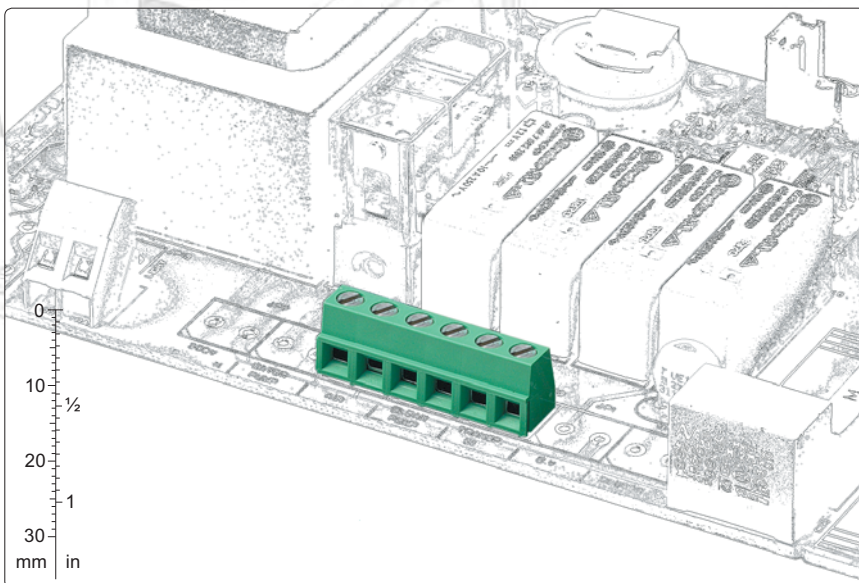
Single Mould Poles:
from 2 to 25



Pitches:
Metric 5 mm, 10 mm
(.197 in, .394 in)



Imperial 5.08 mm, 10.16 mm
(.200 in, .400 in)



pitch 5/5.08 mm
from 2 to 25 poles
straight version
modular



pitch 5/5.08 mm
from 2 to 25 poles
90° version
modular



2 and 3 poles with pegs
straight version
modular



pitch 5/5.08 mm
from 2 to 8 poles
55° version
side stackable



2 poles with pegs
55° version
modular

Pat.



available accessories:
from 2 to 9 poles
BSC for rising clamp
see also "Accessories", page 268

Brief Description

Although the **MSB** series of terminal blocks is small in size it offers a **high number of connection possibilities**; in fact wires up to **1.5 mm² (15 AWG)** can be used and consequently a current range of **17.5A** certified can be reached.

It is available in 5 mm (.197 in) and 10 mm (.394 in) metric pitches and 5.08 mm (.200 in) and 10.16 mm (.400 in) Imperial pitches, in monolithic blocks from 2 to 25 poles, with insertion of the wire parallel to the PCB or inclined at 55°.

All the housings are modular, therefore it is possible to compose the monolithic terminal blocks **from 2 to 25 poles** separately, or to compose the basic terminal blocks until any number of poles is obtained. By taking advantage of this particular characteristic a minimum stock of basic terminal blocks can be kept.

It is simple to manage the product, the warehouse and the assembly with the Kit packages because several versions can be received with only one code, the part-numbers are significantly reduced and the risk of making mistakes is also reduced.

MSB with Pegs

The **Straight 2 pole MSB** is also available with clamping pegs moulded in the plastic housing to secure it to the PCB. With this solution the nominal tightening torque can be applied and the most restrictive guidelines set by the international standards (VDE) are passed.

Characteristics of Components

M3 nickel plated Copper Alloy Screw.

PA 6.6.Polyamide Housing.

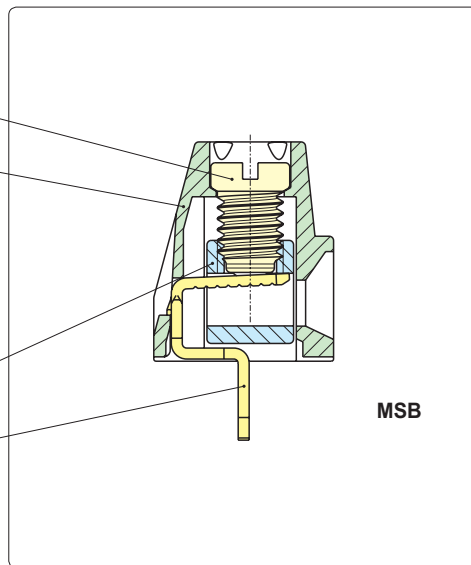
Standard Colour: GREEN.

V0 Self-extinguishing according to UL 94.

Chlorinated solvents resistant,
with no Phosphor, Dioxin or
detrimental to health Halogens.

Nickel plated Copper Alloy Clamp

Easy to solder lead-free
tin-plated Copper Alloy Pin.



Mechanical characteristics

Recommended/Highest tightening torque	0.5/0.6 Nm (4.42/5.31 lbf in)
PCB Thickness:	max. 2.4 mm (.094 in)
PCB Hole Diameter:	min. 1.1 mm (.043 in)
Stripping length	5 ÷ 6 mm (.197 ÷ .24 in)
Operating temperature range	-40 °C ÷ +110 °C (-40 °F ÷ +230 °F)
Climatic category	40/110/21 According to EN 60068-1

Electric characteristics*

Solid wire section	30÷15 AWG (CSA)* 0.05 ÷ 1.5 mm ² (IMQ)* 30÷14 AWG (UL)* 0.05 ÷ 1.5 mm ² (CE)* 55° version
Stranded wire section	30÷15 AWG (CSA)* 0.05 ÷ 1 mm ² (IMQ)* 30÷14 AWG (UL)* 0.05 ÷ 1.5 mm ² (CE)* 55° version
Rated voltage for 5 mm (.197 in) and 5.08 mm (.200 in)	300 V (UL, CSA)*
Rated voltage for 10 mm (.394 in) and 10.16 mm (.400 in)	750 V (IMQ)*
Rated current	17.5 A (IMQ)*
Contact resistance	<15 mΩ
Insulation resistance	>10 ⁹ Ω (500V DC)

*All the above mentioned data refer to the highest values amongst the certificated ones.

V voltage, I current values and tightening torque are related to the norms to be applied to the product and to its use.

Approvals



CE:

250 V - T 110 - 17.5 A - 1.5 mm² solid (13.5 A - 1 mm² stranded) for 5 mm and 5.08 mm pitch
250 V - T 110 - 17.5 A - 1.5 mm² solid and stranded for 55° version and 5 mm and 5.08 mm pitch
750 V - T 110 - 17.5 A - 1.5 mm² solid (13.5 A - 1 mm² stranded) for 10 mm and 10.16 mm pitch
750 V - T 110 - 17.5 A - 1.5 mm² solid and stranded for 55° version and 10 mm and 10.16 mm pitch



UL:
File E 167473

300 V - 13.5 A (Factory Wiring), 10A (Field Wiring) - 30÷16 AWG for 5 mm, 5.08 mm pitch
300 V - 17.5 A (Factory Wiring), 15A (Field Wiring) - 30÷14 AWG for 55° version 5 mm, 5.08 mm pitch
600 V - 13.5 A (Factory Wiring), 10A (Field Wiring) - 30÷16 AWG for 10 mm and 10.16 mm pitch
600 V - 17.5 A (Factory Wiring), 15A (Field Wiring) - 30÷14 AWG for 55° 10 mm and 10.16 mm pitch
Application values for end-use equipment have to be in accordance to UL norms and applicable to it.



CSA:
File LR 102896

300 V - 13.5 A - 30÷15 AWG for 5 mm, 5.08 mm pitch
600 V - 13.5 A - 30÷15 AWG for 10 mm and 10.16 mm pitch



VDE:
Reg. N. 5659 ÜG

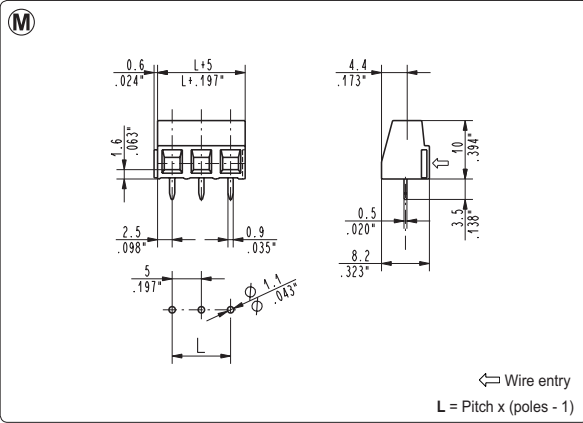
250 V - 13.5 A - T 110 - 1 mm² for 5 mm and 5.08 mm pitch
750 V - 13.5 A - T 110 - 1 mm² for 10 mm and 10.16 mm pitch



IMQ:
File: EC318

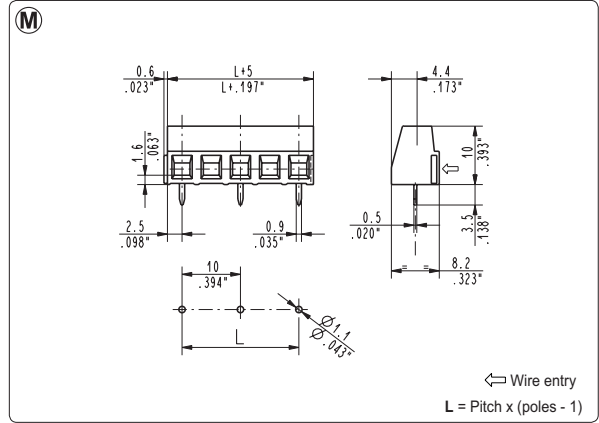
250 V - T 110 - 17.5 A - 1.5 mm² solid (13.5 A - 1 mm² stranded) for 5 mm and 5.08 mm pitch
750 V - T 110 - 17.5 A - 1.5 mm² solid (13.5 A - 1 mm² stranded) for 10 mm and 10.16 mm pitch

See also "Certifications of Products", page 14



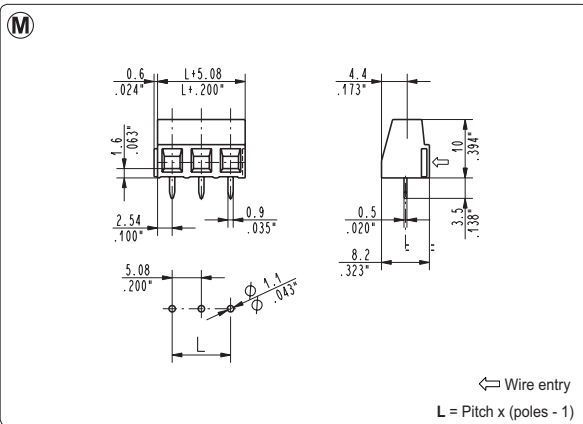
MSB_001 Straight, Modular-Side Entry

5 mm / .197" Pitch			Weight per pole: 0.89 g		
Poles	STD Code	Pcs/pack.	W [kg]*	Pcs/Ind.**	W [kg]*
02	MSB02001	800	1,42	2500	4,45
03	MSB03001	500	1,34	2500	6,68
04	MSB04001	400	1,42	2000	7,12
05	MSB05001	300	1,34	1750	7,79
06	MSB06001	250	1,34	1500	8,01
07	MSB07001	200	1,25	1000	6,23
08	MSB08001	175	1,25	750	5,34
09	MSB09001	150	1,20	750	6,01
10	MSB10001	125	1,11	500	4,45
11	MSB11001	125	1,22	500	4,90
12	MSB12001	100	1,07	500	5,34
13	MSB13001	100	1,16	500	5,79
14	MSB14001	100	1,25	500	6,23
15	MSB15001	100	1,34	500	6,68
16	MSB16001	100	1,42	500	7,12
17	MSB17001	100	1,51	500	7,57
18	MSB18001	100	1,60	500	8,01
19	MSB19001	100	1,69	500	8,46
20	MSB20001	100	1,78	500	8,90
21	MSB21001	100	1,87	250	4,67
22	MSB22001	100	1,96	250	4,90
23	MSB23001	100	2,05	250	5,12
24	MSB24001	100	2,14	250	5,34
25	MSB25001	75	1,67	250	5,56



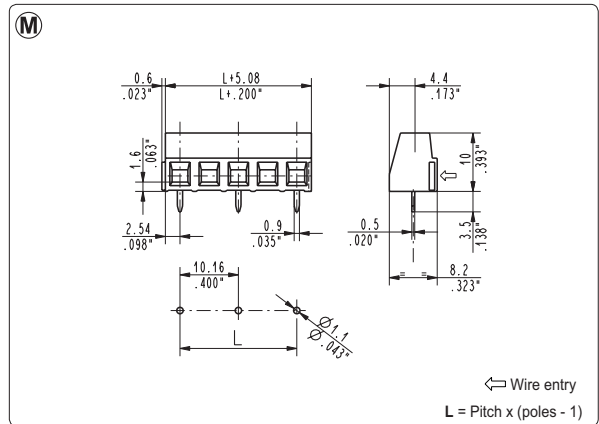
MSB_002 Straight, Modular-Side Entry

10 mm / .394" Pitch			Weight per pole: 1.02 g		
Poles	STD Code	Pcs/pack.	W [kg]*	Pcs/Ind.**	W [kg]*
01	MSB01002	800	0,82	2500	2,55
02	MSB02002	500	1,02	2500	5,10
03	MSB03002	300	0,92	1750	5,36
04	MSB04002	200	0,82	1000	4,08
05	MSB05002	150	0,77	750	3,83
06	MSB06002	125	0,77	500	3,06
07	MSB07002	100	0,71	500	3,57
08	MSB08002	100	0,82	500	4,08
09	MSB09002	100	0,92	500	4,59
10	MSB10002	100	1,02	500	5,10
11	MSB11002	100	1,12	250	2,81
12	MSB12002	100	1,22	250	3,06
13	MSB13002	75	0,99	250	3,32



MSB_005 Straight, Modular-Side Entry

5.08 mm / .200" Pitch			Weight per pole: 0.89 g		
Poles	STD Code	Pcs/pack.	W [kg]*	Pcs/Ind.**	W [kg]*
02	MSB02005	800	1,42	2500	4,45
03	MSB03005	500	1,34	2500	6,68
04	MSB04005	400	1,42	2000	7,12
05	MSB05005	300	1,34	1750	7,79
06	MSB06005	250	1,34	1500	8,01
07	MSB07005	200	1,25	1000	6,23
08	MSB08005	175	1,25	750	5,34
09	MSB09005	150	1,20	750	6,01
10	MSB10005	125	1,11	500	4,45
11	MSB11005	125	1,22	500	4,90
12	MSB12005	100	1,07	500	5,34
13	MSB13005	100	1,16	500	5,79
14	MSB14005	100	1,25	500	6,23
15	MSB15005	100	1,34	500	6,68
16	MSB16005	100	1,42	500	7,12
17	MSB17005	100	1,51	500	7,57
18	MSB18005	100	1,60	500	8,01
19	MSB19005	100	1,69	500	8,46
20	MSB20005	100	1,78	500	8,90
21	MSB21005	100	1,87	250	4,67
22	MSB22005	100	1,96	250	4,90
23	MSB23005	100	2,05	250	5,12
24	MSB24005	100	2,14	250	5,34
25	MSB25005	75	1,67	250	5,56

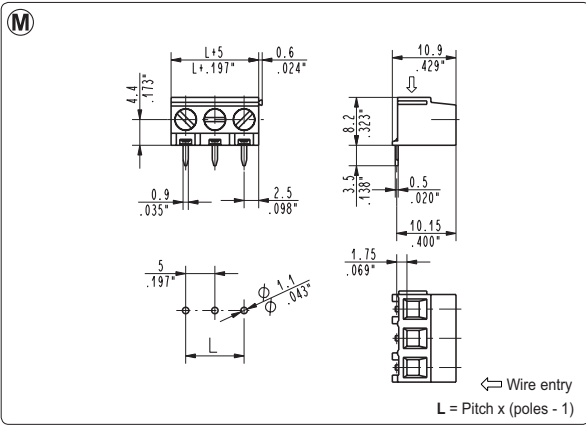


MSB_006 Straight, Modular-Side Entry

10.16 mm / .400" Pitch			Weight per pole: 1.02 g		
Poles	STD Code	Pcs/pack.	W [kg]*	Pcs/Ind.**	W [kg]*
01	MSB01006	800	0,82	2500	2,55
02	MSB02006	500	1,02	2500	5,10
03	MSB03006	300	0,92	1750	5,36
04	MSB04006	200	0,82	1000	4,08
05	MSB05006	150	0,77	750	3,83
06	MSB06006	125	0,77	500	3,06
07	MSB07006	100	0,71	500	3,57
08	MSB08006	100	0,82	500	4,08
09	MSB09006	100	0,92	500	4,59
10	MSB10006	100	1,02	500	5,10
11	MSB11006	100	1,12	250	2,81
12	MSB12006	100	1,22	250	3,06
13	MSB13006	75	0,99	250	3,32

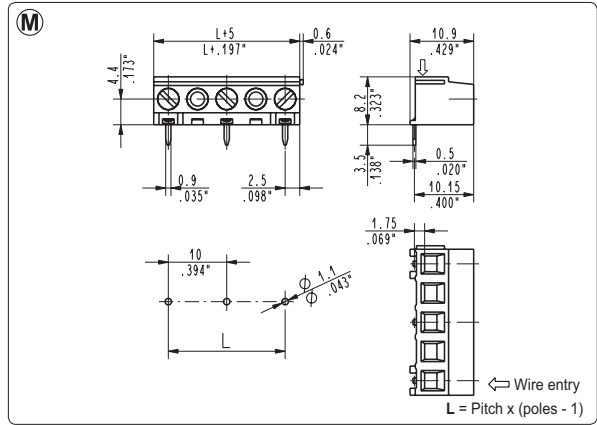
*W [kg]: Approximate Weight per box in kg

**Industrial packaging: add "-00000E" at standard code



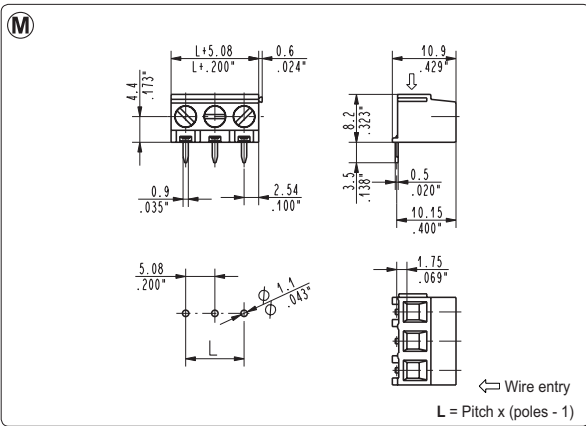
MSB_091 90° Modular, Top Entry
5 mm / .197" Pitch Weight per pole: 0.89 g

Poles	STD Code	Pcs/pack.	W [kg]*	Pcs/Ind.**	W [kg]*
02	MSB02091	800	1,42	2500	4,45
03	MSB03091	500	1,34	2500	6,68
04	MSB04091	400	1,42	2000	7,12
05	MSB05091	300	1,34	1750	7,79
06	MSB06091	250	1,34	1500	8,01
07	MSB07091	200	1,25	1000	6,23
08	MSB08091	175	1,25	750	5,34
09	MSB09091	150	1,20	750	6,01
10	MSB10091	125	1,11	500	4,45
11	MSB11091	125	1,22	500	4,90
12	MSB12091	100	1,07	500	5,34
13	MSB13091	100	1,16	500	5,79
14	MSB14091	100	1,25	500	6,23
15	MSB15091	100	1,34	500	6,68
16	MSB16091	100	1,42	500	7,12
17	MSB17091	100	1,51	500	7,57
18	MSB18091	100	1,60	500	8,01
19	MSB19091	100	1,69	500	8,46
20	MSB20091	100	1,78	500	8,90
21	MSB21091	100	1,87	250	4,67
22	MSB22091	100	1,96	250	4,90
23	MSB23091	100	2,05	250	5,12
24	MSB24091	100	2,14	250	5,34
25	MSB25091	75	1,67	250	5,56



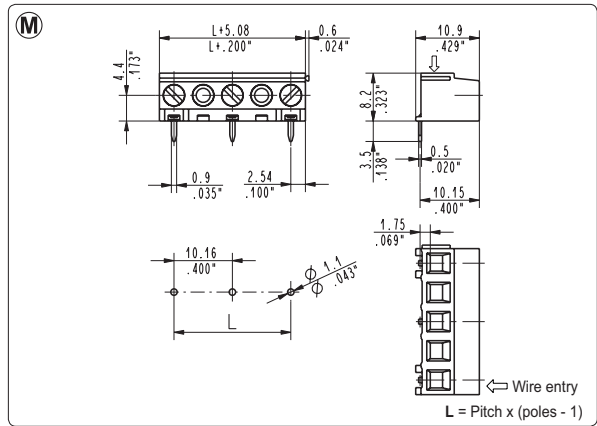
MSB_092 90° Modular, Top Entry
10 mm / .394" Pitch Weight per pole: 1.02 g

Poles	STD Code	Pcs/pack.	W [kg]*	Pcs/Ind.**	W [kg]*
01	MSB01092	800	0,82	2500	2,55
02	MSB02092	500	1,02	2500	5,10
03	MSB03092	300	0,92	1750	5,36
04	MSB04092	200	0,82	1000	4,08
05	MSB05092	150	0,77	750	3,83
06	MSB06092	125	0,77	500	3,06
07	MSB07092	100	0,71	500	3,57
08	MSB08092	100	0,82	500	4,08
09	MSB09092	100	0,92	500	4,59
10	MSB10092	100	1,02	500	5,10
11	MSB11092	100	1,12	250	2,81
12	MSB12092	100	1,22	250	3,06
13	MSB13092	75	0,99	250	3,32



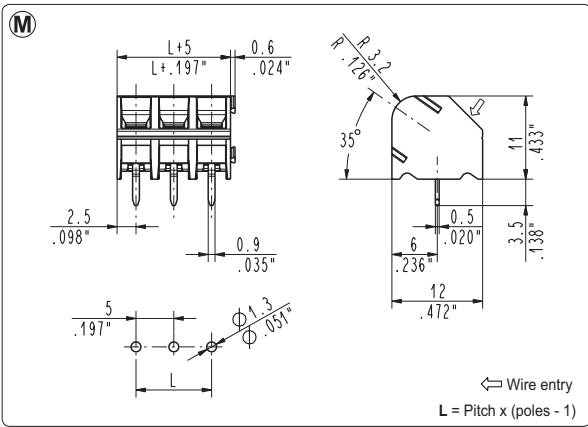
MSB_095 90° Modular, Top Entry
5.08 mm / .200" Pitch Weight per pole: 0.89 g

Poles	STD Code	Pcs/pack.	W [kg]*	Pcs/Ind.**	W [kg]*
02	MSB02095	800	1,42	2500	4,45
03	MSB03095	500	1,34	2500	6,68
04	MSB04095	400	1,42	2000	7,12
05	MSB05095	300	1,34	1750	7,79
06	MSB06095	250	1,34	1500	8,01
07	MSB07095	200	1,25	1000	6,23
08	MSB08095	175	1,25	750	5,34
09	MSB09095	150	1,20	750	6,01
10	MSB10095	125	1,11	500	4,45
11	MSB11095	125	1,22	500	4,90
12	MSB12095	100	1,07	500	5,34
13	MSB13095	100	1,16	500	5,79
14	MSB14095	100	1,25	500	6,23
15	MSB15095	100	1,34	500	6,68
16	MSB16095	100	1,42	500	7,12
17	MSB17095	100	1,51	500	7,57
18	MSB18095	100	1,60	500	8,01
19	MSB19095	100	1,69	500	8,46
20	MSB20095	100	1,78	500	8,90
21	MSB21095	100	1,87	250	4,67
22	MSB22095	100	1,96	250	4,90
23	MSB23095	100	2,05	250	5,12
24	MSB24095	100	2,14	250	5,34
25	MSB25095	75	1,67	250	5,56



MSB_096 90° Modular, Top Entry
10.16 mm / .400" Pitch Weight per pole: 1.02 g

Poles	STD Code	Pcs/pack.	W [kg]*	Pcs/Ind.**	W [kg]*
01	MSB01096	800	0,82	2500	2,55
02	MSB02096	500	1,02	2500	5,10
03	MSB03096	300	0,92	1750	5,36
04	MSB04096	200	0,82	1000	4,08
05	MSB05096	150	0,77	750	3,83
06	MSB06096	125	0,77	500	3,06
07	MSB07096	100	0,71	500	3,57
08	MSB08096	100	0,82	500	4,08
09	MSB09096	100	0,92	500	4,59
10	MSB10096	100	1,02	500	5,10
11	MSB11096	100	1,12	250	2,81
12	MSB12096	100	1,22	250	3,06
13	MSB13096	75	0,99	250	3,32

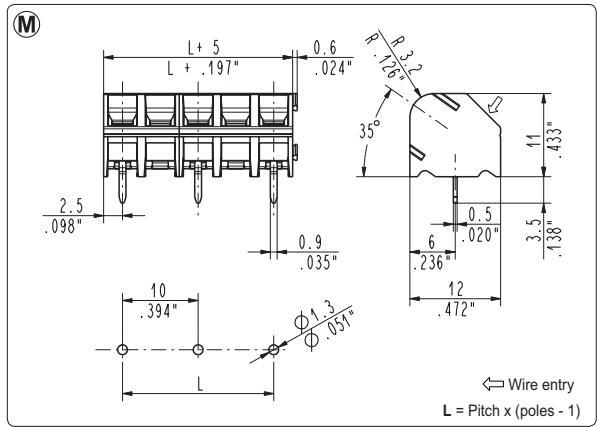


MSB_041 55° Modular, Angled Entry

5 mm / .197" Pitch Weight per pole: 1.03 g

Poles	STD Code	Pcs/pack.	W [kg]*	Pcs/Ind.**	W [kg]*
02	MSB02041	800	1,65	2000	4,12
03	MSB03041	500	1,55	1750	5,41
04	MSB04041	400	1,65	1000	4,12
05	MSB05041	300	1,55	750	3,86
06	MSB06041	250	1,55	500	3,09
07	MSB07041	200	1,44	500	3,61
08	MSB08041	175	1,44	500	4,12

max 8 poles can be combined

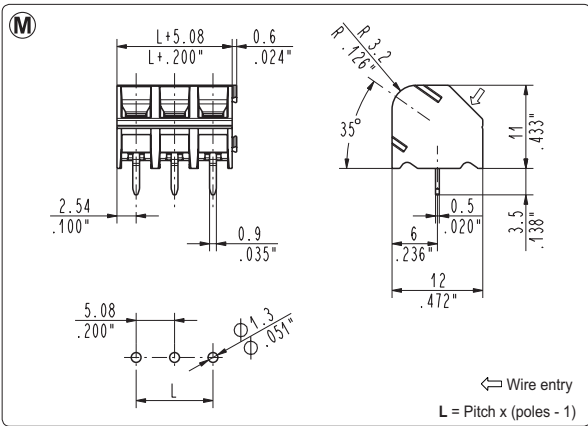


MSB_042 55° Modular, Angled Entry

10 mm / .394" Pitch Weight per pole: 1.29 g

Poles	STD Code	Pcs/pack.	W [kg]*	Pcs/Ind.**	W [kg]*
01	MSB01042	800	1,03	2000	2,58
02	MSB02042	500	1,29	2000	5,16
03	MSB03042	300	1,16	750	2,90
04	MSB04042	200	1,03	500	2,58

max 4 poles can be combined

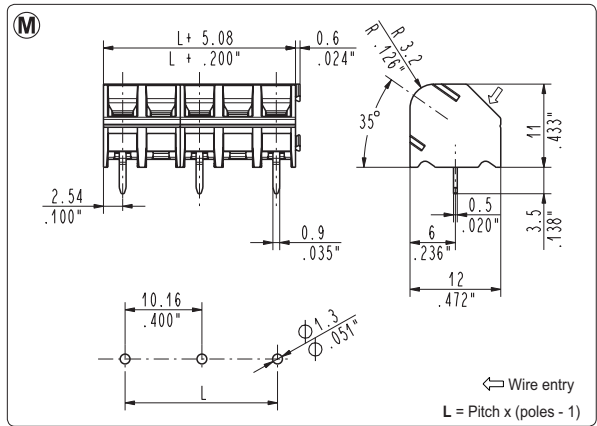


MSB_045 55° Modular, Angled Entry

5.08 mm / .200" Pitch Weight per pole: 1.03 g

Poles	STD Code	Pcs/pack.	W [kg]*	Pcs/Ind.**	W [kg]*
02	MSB02045	800	1,65	2000	4,12
03	MSB03045	500	1,55	1750	5,41
04	MSB04045	400	1,65	1000	4,12
05	MSB05045	300	1,55	750	3,86
06	MSB06045	250	1,55	500	3,09
07	MSB07045	200	1,44	500	3,61
08	MSB08045	175	1,44	500	4,12

max 8 poles can be combined



MSB_046 55° Modular, Angled Entry

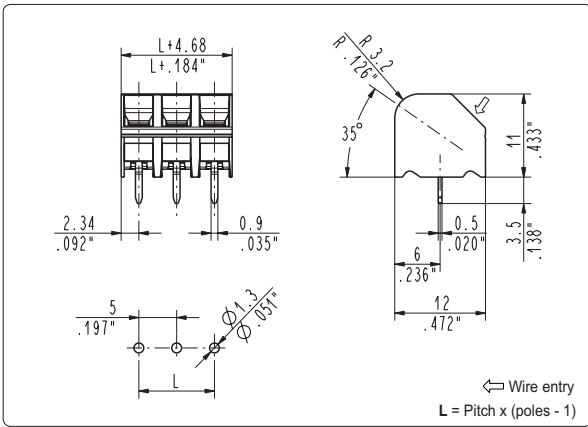
10.16 mm / .400" Pitch Weight per pole: 1.29 g

Poles	STD Code	Pcs/pack.	W [kg]*	Pcs/Ind.**	W [kg]*
01	MSB01046	800	1,03	2000	2,58
02	MSB02046	500	1,29	2000	5,16
03	MSB03046	300	1,16	750	2,90
04	MSB04046	200	1,03	500	2,58

max 4 poles can be combined

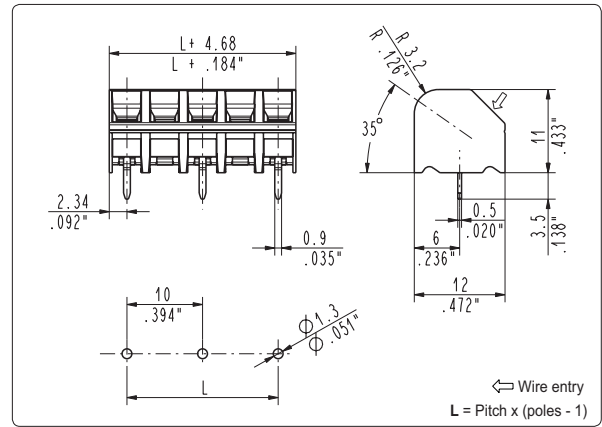
*W [kg]: Approximate Weight per box in kg

**Industrial packaging: add "-00000E" at standard code



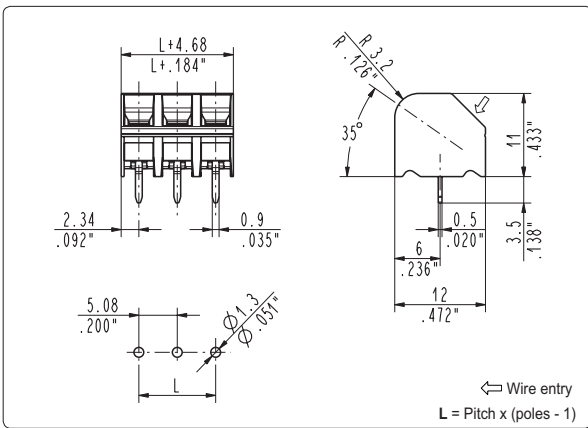
MSB_061 55° Angled Entry
5 mm / .197" Pitch Weight per pole: 1.03 g

Poles	STD Code	Pcs/pack.	W [kg]*	Pcs/Ind.**	W [kg]*
02	MSB02061	800	1,65	2000	4,12
03	MSB03061	500	1,55	1750	5,41
04	MSB04061	400	1,65	1000	4,12
05	MSB05061	300	1,55	750	3,86
06	MSB06061	250	1,55	500	3,09
07	MSB07061	200	1,44	500	3,61
08	MSB08061	175	1,44	500	4,12



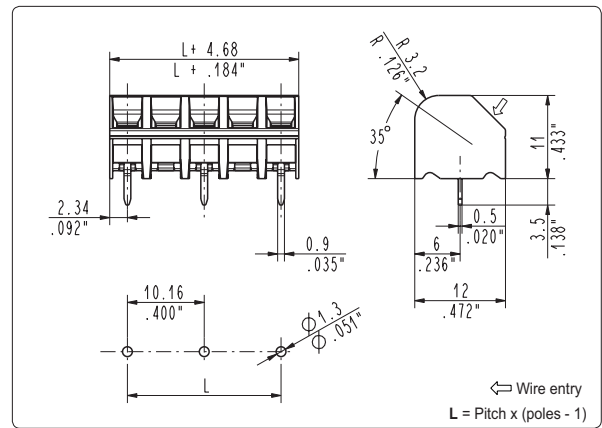
MSB_062 55° Angled Entry
10 mm / .394" Pitch Weight per pole: 1.29 g

Poles	STD Code	Pcs/pack.	W [kg]*	Pcs/Ind.**	W [kg]*
01	MSB01062	800	1,03	2000	2,58
02	MSB02062	500	1,29	2000	5,16
03	MSB03062	300	1,16	750	2,90
04	MSB04062	200	1,03	500	2,58



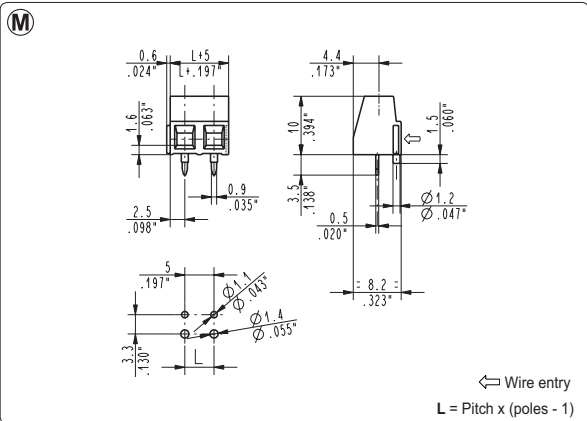
MSB_065 55° Angled Entry
5.08 mm / .200" Pitch Weight per pole: 1.03 g

Poles	STD Code	Pcs/pack.	W [kg]*	Pcs/Ind.**	W [kg]*
02	MSB02065	800	1,65	2000	4,12
03	MSB03065	500	1,55	1750	5,41
04	MSB04065	400	1,65	1000	4,12
05	MSB05065	300	1,55	750	3,86
06	MSB06065	250	1,55	500	3,09
07	MSB07065	200	1,44	500	3,61
08	MSB08065	175	1,44	500	4,12



MSB_066 55° Angled Entry
10.16 mm / .400" Pitch Weight per pole: 1.29 g

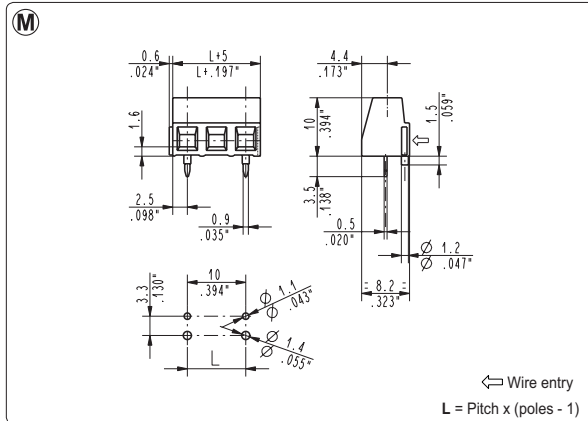
Poles	STD Code	Pcs/pack.	W [kg]*	Pcs/Ind.**	W [kg]*
01	MSB01066	800	1,03	2000	2,58
02	MSB02066	500	1,29	2000	5,16
03	MSB03066	300	1,16	750	2,90
04	MSB04066	200	1,03	500	2,58



MSB_001-0000P Straight with Vde Pegs, Side Entry

5 mm / .197" Pitch Weight per pole: 0.89 g

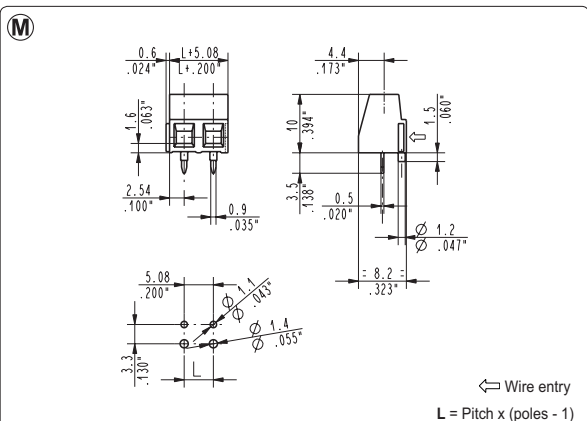
Poles	STD Code	Pcs/pack.	W [kg]*	Pcs/Ind.**	W [kg]*
02	MSB02001-0000P	800	1,42	2500	4,45
03	MSB03001-0000P	500	1,34	2500	6,68



MSB_002-0000P Straight with Vde Pegs, Side Entry

10 mm / .394" Pitch Weight per pole: 1.02 g

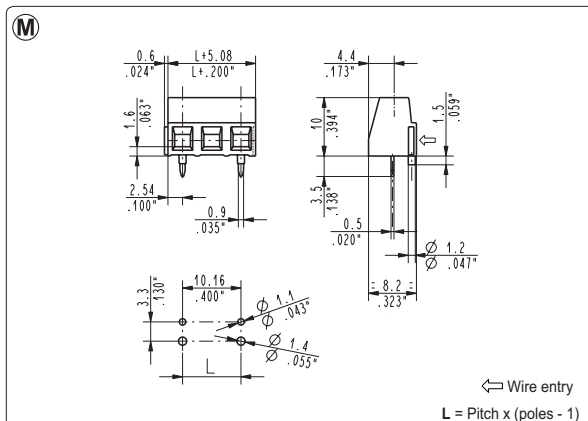
Poles	STD Code	Pcs/pack.	W [kg]*	Pcs/Ind.**	W [kg]*
02	MSB02002-0000P	500	1,02	2500	5,1
03	MSB03002-0000P	300	0,92	1750	5,36



MSB_005-0000P Straight with Vde Pegs, Side Entry

5.08 mm / .200" Pitch Weight per pole: 0.89 g

Poles	STD Code	Pcs/pack.	W [kg]*	Pcs/Ind.**	W [kg]*
02	MSB02005-0000P	800	1,42	2500	4,45
03	MSB03005-0000P	500	1,34	2500	6,68



MSB_006-0000P Straight with Vde Pegs, Side Entry

10.16 mm / .400" Pitch Weight per pole: 1.02 g

Poles	STD Code	Pcs/pack.	W [kg]*	Pcs/Ind.**	W [kg]*
02	MSB02006-0000P	500	1,02	2500	5,1
03	MSB03006-0000P	300	0,92	1750	5,36

*W [kg]: Approximate Weight per box in kg

**Industrial packaging: add "-00000E" at standard code