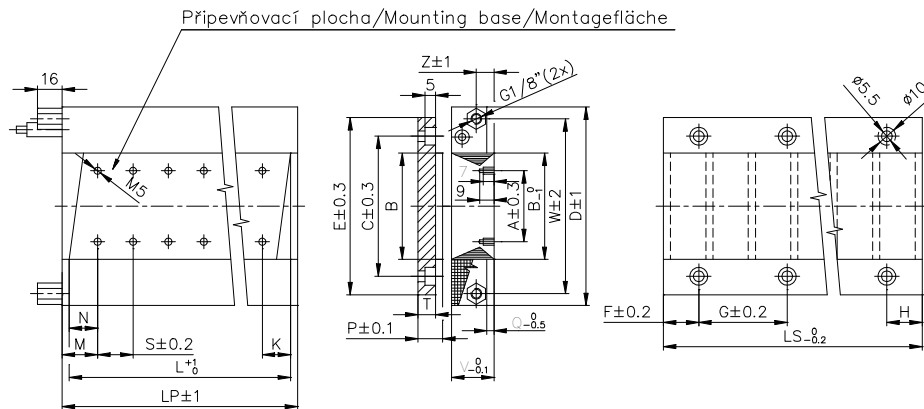


- Typ
- Type
- Typ
- L1S
- L1SK**
- L2S
- L2SK
- L3S
- L3SK
- LTSK
- LNS
- LA

## ◆ Řada L1SK ◆ Series L1SK ◆ Reihe L1SK ◆

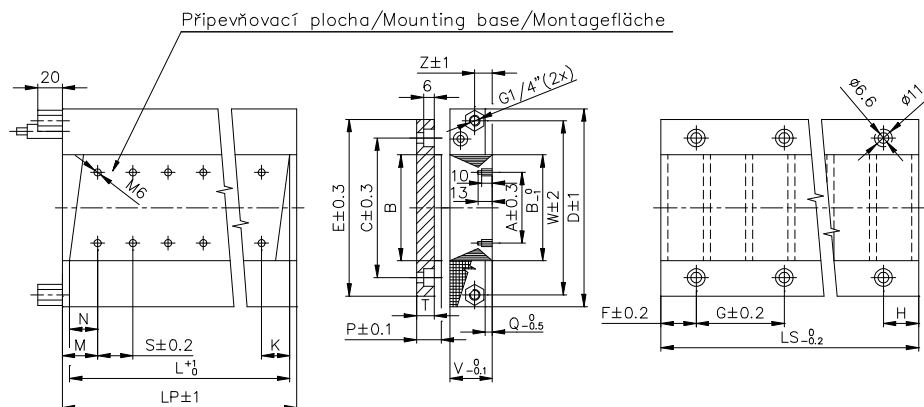
Velikost L1SK050P – 075P / Size L1SK050P – 075P / Größe L1SK050P – 075P



Primární díly / Primary parts / Primärteile

Typ / Type / Typ	F <sub>peak</sub> [N]	A [mm]	B [mm]	D [mm]	K [mm]	L [mm]	L <sub>p</sub> [mm]	M [mm]	N [mm]	Q [mm]	R <sub>p</sub> [mm]	S [mm]	U [mm]	V [mm]	W [mm]	Z [mm]	m [kg]
L1SK050P-1708	400	30	50	95	18	136	160	25	18	0,2	M5	50	8	25	74	7	1,35
L1SK075P-2608	1100	35	75	120	29	208	233	36	29	0,2	M5	50	8	25	100	7	3
L1SK075P-3208	1700				28	256	282	35	28								3,5

Velikost L1SK080P – 160P / Size L1SK080 – 160P / Größe L1SK080P – 160P



Primární díly / Primary parts / Primärteile

Typ / Type / Typ	F <sub>peak</sub> [N]	A [mm]	B [mm]	D [mm]	K [mm]	L [mm]	L <sub>p</sub> [mm]	M [mm]	N [mm]	Q [mm]	R <sub>p</sub> [mm]	S [mm]	U [mm]	V [mm]	W [mm]	Z [mm]	m [kg]
L1SK080P-3211	1900	40	80	140	26	352	375	33	26	1	M6	50	11	38	118	9,5	10,5
L1SK080P-4111	2400				25,5	451	474	32,5	25,5								13,2
L1SK080P-5611	3400				33	616	639	40	33								17,5
L1SK120P-3211	2900	60	120	180	26	352	377	33	26	1	M6	50	11	38	155	11	14,5
L1SK120P-4111	3600				25,5	451	476	32,5	25,5								18,5
L1SK120P-4711	4200				33,5	517	542	40,5	33,5								21,5
L1SK120P-5911	5300				24,5	649	674	31,5	24,5								25,8
L1SK160P-3211	3700	80	160	230	18,5	352	377	25,5	18,5	1	M6	50	11	38	205	11	18
L1SK160P-6511	7200				32,5	715	740	39,5	32,5								38,5
L1SK160P-6811	8000				24	748	773	31	24								40

### Sekundární díly / Secondary parts / Sekundärteile

Typ / Type / Typ	B [mm]	C [mm]	E [mm]	F [mm]	G [mm]	H [mm]	LS [mm]	P [mm]	RS1 [mm]	RS2 [mm]	T [mm]	ZS [mm]	2p	m [kg]
L1S025S-0624	25	42	56	24	48	24	144	12	5,5	10	7,5	5	6	0,6
L1S025S-0824							192						8	0,8
L1S025S-1024							240						10	1
L1S050S-0624	50	66	80	24	48	24	144	12	5,5	10	7,5	5	6	0,85
L1S050S-0824							192						8	1,44
L1S050S-1024							240						10	2
L1S075S-0624	75	92	106	24	48	24	144	12	5,5	10	7,5	5	6	1,12
L1S075S-0824							192						8	1,62
L1S075S-1024							240						10	2
L1S080S-0633	80	98	114	33	66	33	198	14	6,6	11	8,5	6	6	2,2
L1S080S-0833							264						8	3
L1S080S-1033							330						10	3,7
L1S120S-0633	120	138	154	33	66	33	198	14	6,6	11	8,5	6	6	3,1
L1S120S-0833							264						8	4,1
L1S120S-1033							330						10	5,2
L1S160S-0633	160	178	194	33	66	33	198	14	6,6	11	8,5	6	6	4
L1S160S-0833							264						8	6
L1S160S-1033							330						10	7,4

Typ  
Type  
Typ

L1S

L1SK

L2S

L2SK

L3S

L3SK

LTSK

LNS

LA

### Standardně používané kabely / Usually used cables Standard benutzte Kabel

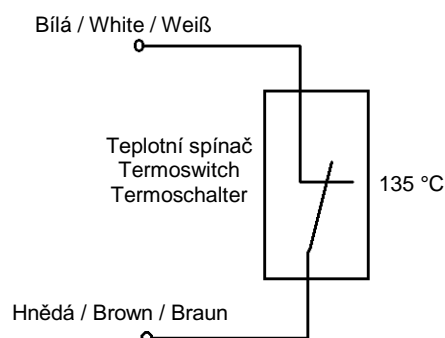
Kabel / Cable / Kabel	30°C*	40°C*	50°C*
4 x 0,75 + 1x (2 x 0,25)	12 A	10,4 A	8,5 A
4 x 1,5 + 1x (2 x 0,5)	18 A	15,5 A	12,5 A
4 x 2,5 + 1x (2 x 0,5)	26 A	24 A	22,5 A
4 x 4 + 1x (2 x 0,5)	42 A	38,5 A	36,5 A

\*) – Teplota okolí / Ambient temperature / Umgebungstemperatur

### Zapojení / Connection / Schaltung

Měníč / Converter Verstärker	Kabel / Cable Kabel
U	1
V	2
W	3
PE	YG*
TS	Bílá / White / Weiß
TS	Hnědá / Brown / Braun

TS – Teplotní spínač / Termoswitch / Termoschalter  
YG\* – Žlutozelená / Yellow-green / Gelb-grün



### Teplotní spínač / Termoswitch / Termoschalter

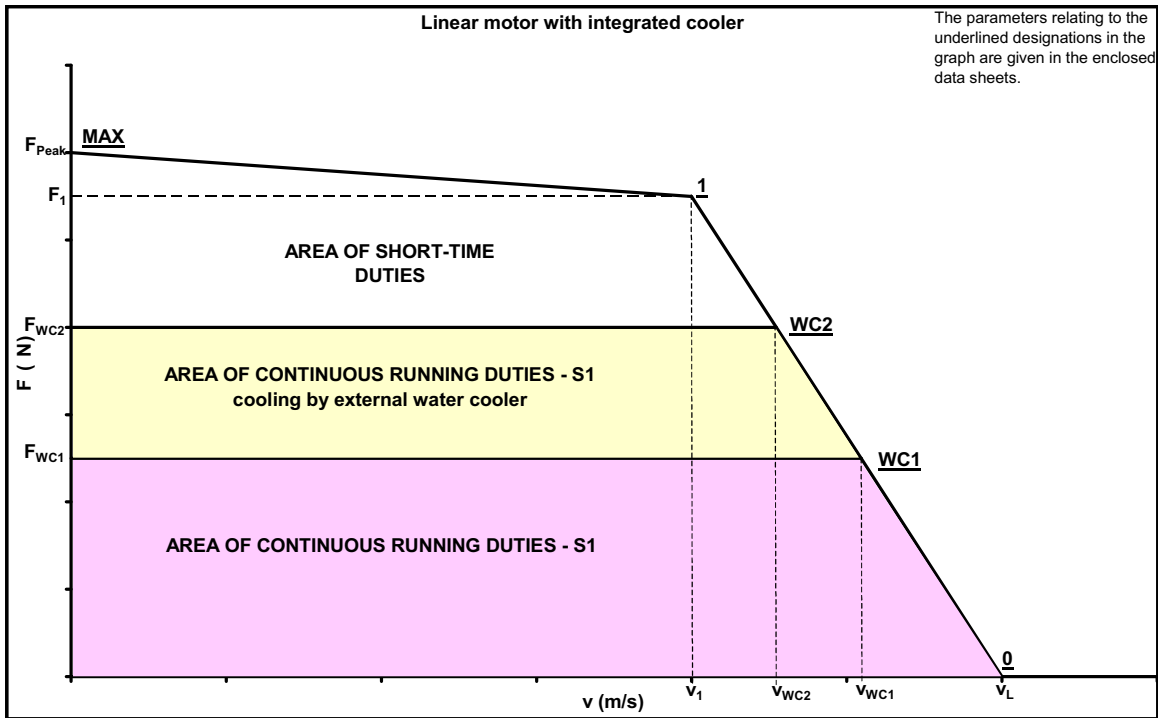
Provedení	Design	Kontaktausführung	Rozpínací / Brake contact / Öffned	
Jmenovité napětí	Nominal voltage	Nennspannung	250 V <sub>AC</sub>	500 V <sub>AC</sub>
Jmenovitý proud	Nominal current	Nennstrom		
		cosφ = 1,0	2,5 A	0,75 A
		cosφ = 0,6	1,6 A	0,5 A
Max. rozpínací proud	Max. switching current	Schaltstrom max.	7,5 A	2,5 A

Typ
Type
Typ
L1S
L1SK
L2S
L2SK
L3S
L3SK
LTSK
LNS
LA

Technická data / Technical data / Technische Daten  
L1SK025 – 160, U<sub>DC</sub> = 560 V

Typ	F <sub>peak</sub> [N]	I <sub>peak</sub> [A]	F <sub>1</sub> [N]	I <sub>1</sub> [A]	V <sub>1</sub> [ms <sup>-1</sup> ]	f <sub>1</sub> [Hz]	ΔP <sub>1</sub> [W]	F <sub>wc2</sub> [N]	I <sub>wc2</sub> [A]	V <sub>wc2</sub> [ms <sup>-1</sup> ]	ΔP <sub>wc2</sub> [W]	F <sub>wc1</sub> [N]	I <sub>wc1</sub> [A]	V <sub>wc1</sub> [ms <sup>-1</sup> ]	ΔP <sub>wc1</sub> [W]	F <sub>A</sub> [N]	I <sub>ULT</sub> [A]	k <sub>F</sub> [NA <sup>-1</sup> ]	R <sub>U-V</sub> [Ω]	L <sub>U-V</sub> [mH]	τ <sub>el</sub> [ms]
L1SK050P-1708-IL	400	7	320	4,8	1,0	21	1010	270	3,9	1,5	650	140	1,9	2,9	150	1400	11	90	22,2	50	2,5
L1SK075P-2608-JL	1100	15	550	6,2	2,5	52	925	500	5,4	2,6	730	380	3,9	2,8	370	3500	22	100	12	31	3
L1SK075P-3208-JL	1700	23	930	9,7	2,0	42	2220	1000	10,0	2,3	1360	750	7,0	2,6	650	4400	22	100	11,8	32	3,1
L1SK080P-3211-LL	1900	25	1100	11,0	1,7	25	1700	1000	10,0	1,8	1450	800	7,0	2,0	680	4400	29	120	7,1	42	6,9
L1SK080P-4111-JL	2400	31	1500	16,0	1,7	25	2150	1400	14,8	1,7	1830	1000	10,3	2,2	890	5600	40	100	4,2	26,5	7,4
L1SK080P-4111-PH	2400	17	1500	8,5	1,7	25	2150	1400	7,8	1,7	1830	1000	5,6	2,1	910	5600	22	200	14,7	96	6,9
L1SK080P-5611-JL	3400	45	2800	29,0	1,7	25	6200	2600	26,7	1,7	5270	1900	18,4	2,0	2520	9500	50	100	3,8	23,5	7,5
L1SK080P-5611-PH	3400	27	2800	17,5	1,7	25	6200	2600	16,0	1,7	5270	1900	11,0	2,1	2520	9500	31	200	10	65	7,5
L1SK120P-3211-SH	2700	12	2000	7,5	0,5	7,8	2830	1900	6,5	0,5	2130	1500	5,0	0,8	1270	7200	16	300	25,4	200	9
L1SK120P-4111-JL	3600	45	2650	25,5	1,7	25	3730	2500	23,6	1,7	3170	1680	16,0	2,1	1450	9500	55	100	2,9	21	8,4
L1SK120P-4711-JL	4200	50	3000	30,0	1,7	25	4350	2750	27,5	1,7	3700	2000	19,0	2,1	1740	10000	65	100	2,5	18	8,5
L1SK120P-5911-PL	5300	38	4500	29,0	0,7	10,1	8200	4000	26,5	0,7	6970	3000	18,0	1,0	3150	15000	52	200	4,9	36	8,5
L1SK160P-3211-NH	3700	37	2800	23,5	3,5	53	4300	2550	21,0	3,5	3650	1900	14,0	3,6	1720	9000	48	150	3,9	29,5	8,9
L1SK160P-6511-PL	7200	52	6200	35,0	0,7	10,1	9900	5800	31,5	0,7	8400	4500	22,0	0,9	3960	24000	65	200	4,3	33,5	9
L1SK160P-6811-PL	8000	52	6400	42,5	0,7	10,1	11400	6600	38,0	0,7	9800	5000	26,0	0,9	4600	25500	72	200	3,2	26	9,3

## Power characteristic for the type L1SK



**Typ  
Type  
Typ**

L1S

**L1SK**

L2S

L2SK

L3S

L3SK

LTSK

LNS

LA

### Used symbols

$F_{peak}$ [ N ]	- highest force developed by the motor (it is used as starting force)	$R_{u-v}$ [ $\Omega$ ]	- resistance of the motor winding at 20°C
$F_1$ [ N ]	- max. force by current $I_1$ and speed $v_1$	$L_{u-v}$ [ mH ]	- inductance of the winding
$v_1$ [ m/s ]	- speed of the motor by current $I_1$ and force $F_1$	$\tau_{el}$ [ ms ]	- electromagnetic time constant of the motor
$F_1, I_1$ and $v_1$ values determine the transition point of the motor.		$U_{BUS}$ [ V ]	- DC voltage of intermediate circuit of the frequency converter for which the motor is produced
$F_{NC}$ [ N ]	- force being developed by the motor continuously at the air cooling by the motor surface and additional cooling area represented by an aluminium plate with the thickness of 10 mm and the cooling surface area three times as large as mechanical interface of the primary part. This additional cooling plate serves for simulating heat removal into the structure of the driven equipment during the tests	$k_F$ [ N/A ]	- force constant of the motor
$F_A$ [ N ]	- attractive force between the primary and secondary parts of the motor	$k_E$ [ Vs/m ]	- voltage constant of the motor
$F_{wc}$ [ N ]	- force being developed by the motor continuously at the water cooling	$k_M$ [ N/ $\sqrt{W}$ ]	- constant of the motor
$F_{wc1}$ [ N ]	- force being developed by the motor continuously at the cooling by a built-in water cooler	$v_L$ [ m/s ]	- theoretic no-load velocity
$F_{wc2}$ [ N ]	- force being developed by the motor continuously at the cooling by a built-in and additional water coolers	$\Delta P_1$ [ W ]	- motor losses corresponding to the force $F_1$ at the winding temperature of 130°C
$I_{peak}$ [ A ]	- current corresponding to the force $F_{peak}$	$\Delta P_{wc}$ [ W ]	- motor losses corresponding to the force $F_{wc}$ at the winding temperature of 130°C
$I_1$ [ A ]	- maximum short-time permissible current (r.m.s. value) which is given by the intersection of current limitation of the servomotor and of limitation by the rated voltage of the converter	$\Delta P_{wc1}$ [ W ]	- motor losses corresponding to the force $F_{wc1}$ at the winding temperature of 130°C
$I_{wc}$ [ A ]	- current corresponding to the force $F_{wc}$	$\Delta P_{wc2}$ [ W ]	- motor losses corresponding to the force $F_{wc2}$ at the winding temperature of 130°C
$I_{wc1}$ [ A ]	- current corresponding to the force $F_{wc1}$	$\Delta P_{NC}$ [ W ]	- motor losses corresponding to the force $F_{NC}$ at the winding temperature of 130°C
$I_{wc2}$ [ A ]	- current corresponding to the force $F_{wc2}$	$m$ [ kg ]	- mass of the primary part of the motor
$I_{NC}$ [ A ]	- current corresponding to the force $F_{NC}$	$m_{sec}$ [ kg ]	- mass of the secondary part of the motor
		$f_1$ [ Hz ]	- supply current frequency corresponding to the velocity $v_1$
		$I_{ult}$ [ A ]	- supply current the exceeding of which brings about demagnetization of magnets