

Project Planning Sheet

Linear motors



(1) CONTACT

Name: _____ Company: _____ Phone.: _____ Mail: _____

(2) MOTOR COMPONENT

2.1 TYPECODE (see Product: www.hiwin.de)

linear motor type and winding type: e.g. LMFP43-Q20

2.2 BASE DATA (for designing a customer-specific motor)

continuous current; $I_c [A]$	<input type="text"/>	peak current; $I_p [A]$	<input type="text"/>	stall current; $I_s [A]$	<input type="text"/>
continuous force; $F_c [N]$	<input type="text"/>	peak force; $F_p [N]$	<input type="text"/>	stall force; $F_s [N]$	<input type="text"/>
rated speed. at F_c ; $v_c [m/s]$	<input type="text"/>	speed at F_p ; $v_{max} [m/s]$	<input type="text"/>	working point; $F @ v [N @ m/s]$	<input type="text"/>
forcer length; $[mm]$	<input type="text"/>	forcer width; $[mm]$	<input type="text"/>	total installation height; $[mm]$ (forcer and stator)	<input type="text"/>

2.3 MOTOR TEMPERATURE PROTECTION

standard: (see catalogue / technical data) additional sensors: type: _____ | amount: _____ pcs

2.4 OPTIONS

connection cable | plug cable length $[m]$

(3) APPLICATION

3.1 DESCRIPTION: (application, machine type)

3.2 ADDITIONAL INFORMATION

needed protection class? ambient temperature _____ $[^{\circ}C]$ installation position horizontal vertical
(IP60: LMSA, LMFA, LMSC, LMC / IP65: LMFP)
cooling system air | liquid cooling flow rate $[l/min]$ cooling medium / additive

3.3 CYCLE DESCRIPTION (position, velocity, acceleration, jerk, time, moved mass, mass moment of inertia, force)

1	
2	
3	
4	
5	

3.4 OPERATON MODE

force $[F]$; operation time $[t]$; operation with constant load $[dt_p]$; standstill with unpowered motor $[dt_R]$; standstill with powered motor $[dt_v]$

<input type="checkbox"/> S1	$F [N]$	<input type="text"/>	<input type="checkbox"/> S3	$F [N]$	<input type="text"/>	<input type="checkbox"/> S6	$F [N]$	<input type="text"/>
	$t [s]$	<input type="text"/>		$dt_p [s]$	<input type="text"/>		$dt_p [s]$	<input type="text"/>
				$dt_R [s]$	<input type="text"/>		$F dt_v [N]$	<input type="text"/>
							$dt_v [s]$	<input type="text"/>

(4) INFORMATION ON INSTALLATION SITUATION

4.1 POWERSUPPLY AND FILTERS

supply voltage $U_N [V]$ net type TN | TT IT net filter, choke used?: no | yes (which?)
motor- filter, -choke used?: no | yes (which?)

4.2 MACHINE CONTROL

manufacturer type

4.3 POWER UNIT

drive manufacturer <input type="text"/>	drive type <input type="text"/>	switching frequency $[kHz]$ <input type="text"/>
coupled DC-Link <input type="checkbox"/> yes <input type="checkbox"/> no	max. DC Link $U_{ZK,max} [V]$ <input type="text"/>	cable type <input type="text"/>
Motor protection I ² t <input type="checkbox"/> yes <input type="checkbox"/> no	DC Link voltage $U_{ZK} [V]$ <input type="text"/>	cable length $[m]$ <input type="text"/>
motors per drive? <input type="checkbox"/> 1 pcs <input type="checkbox"/> 2 pcs	coupled axis? <input type="checkbox"/> mech. <input type="checkbox"/> electrical	brake/clamp? <input type="checkbox"/> yes <input type="checkbox"/> no

4.4 MOTOR TERMINAL VOLTAGE (empirical values)

phase-phase $[V]$ phase-ground $[V]$ gradient $[kV/\mu s]$

(5) COMMENTS: (amount / needs etc.)