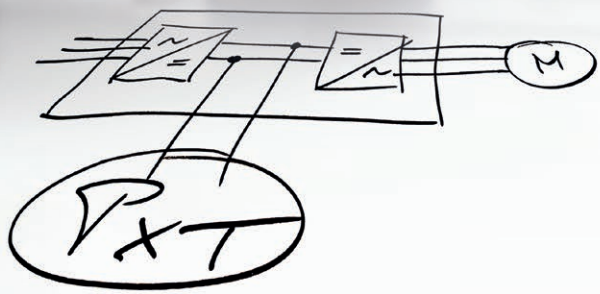
KOCH

Active Energy Management Device for Electric Drive Technology



PXTFX

Technical data PxTFX

Version April 14, 2023

Criteria	PxTFX
Weight	6.0 kg (stand-alone) 9.6 kg (stand-alone with 1 energy module) 13.3 kg (stand-alone with 2 energy modules)
Dimensions H x W x D	297 x 100 x 167 mm (stand-alone) 297 x 100 x 276 mm (stand-alone with 1 energy module) 297 x 100 x 385 mm (stand-alone with 2 energy modules)
Protection class	IP 20
Ambient temperature	-10°C up to +65°C (transport, storage)
	0°C up to +40°C (in operation)
Humidity	≤ 95% (transport, storage)
	≤ 85% (in operation)
Cooling	Forced air cooling via fan. Operation in relation to heat sink temperature. Adjustable, e.g. for UPS application
Limitation for installations in elevated areas	<2000 m: No limitations / overvoltage category III >2000 m: reduction of performance / overvoltage category II
Recuperation of braking energy	Plug & Play due to automated detection of brake-chopper switch-on threshold U_{BRC}
Min. starting voltage level for the system (DC link or Energy storage)	Approx. 45 VDC
Min. Operating voltage level U_{Zmin}	180 VDC (Wake-up-phase: U_{ZStart} 48-180 VDC)
Max. Operating voltage level U_{Zmax}	848 VDC (UL) / 1000 VDC (IEC)
Operation conditions	$U_Z > U_C$. Otherwise immediate stop = safe separation of DC link from energy storage
24 VDC In	Galvanically isolated For communication tasks with PxTFX without connecting it to DC link or energy storage, e.g. for setting parameters at the desk (Note: not protected against polarity reversal)
Energy of integrated capacities[1]	0 kJ (stand-alone) 2 kJ (stand-alone with 1 energy module) 4 kJ (stand-alone with 2 energy modules)
Expansion of capacities	Expandable with PxTEX or EM in steps of 2kJ
Capacity monitoring	Parameterizable

[1] Data refer to connection to a DC link of a drive controller with 400 V AC supply voltage. Other data on request.

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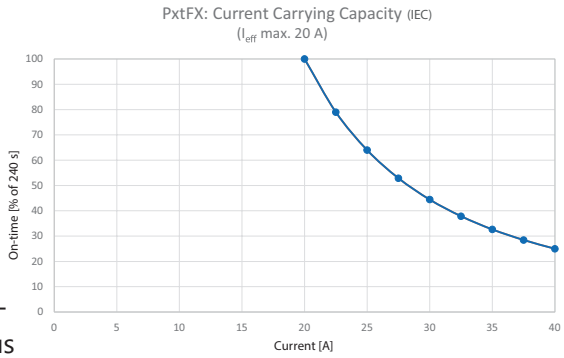

Criteria	PxTFX
Max. Energy Storage current I_C	17 A (UL) continuous 20 A (IEC) continuous 40 A peak for 60s (I_{eff} = 20 A at t_{Cycle} = 240s)
Max. Power P_{max}[1]	7,65 kW (UL) / 9 kW (IEC) continuous 18 kW peak for 60s
Ground rule for power flow	$P_C = P_Z$
Operation frequency level	15 kHz, in operation load-dependent reduction down to 7.5 kHz Manually adjustable up to 18 kHz
Max. recuperation of energy	Cycle time 1s: 1 energy module up to 4,32 MJ/operating hour 2 energy modules up to 8,64 MJ/operating hour
Load monitoring	DC link side and energy storage side (in each case I^2t)
Connection DC link	Front, top
Connection for PxTEX, EM or NEV	Front, bottom
Communication	3 digital In 3 digital Out K-Bus interface for operating data output 4 LEDs SD-Card Reset-button for restart Boot-button for boot loading from SD-Card Option: PxTMX plug-on module for fieldbus communication etc.
Visualization	Charging indicator for each Energy module (flashing LED according to voltage level)
Firmware-Updates	On Koch company site (Fabrikle) or With SD-Card at customers site or Via PxTCC (USB K-Bus interface) with PC
Protection	Internal fuses Individual protection of each energy module
Precharging circuit	Connection directly to DC link interference-free possible, independent from further precharging circuits
Reverse polarity protection	To DC link: In case connecting with reverse polarity PxTFX blocks and disconnects the DC link side from energy storage side
Charging protection	To DC link

[1] Data refer to connection to a DC link of a drive controller with 400 V AC supply voltage. Other data on request.

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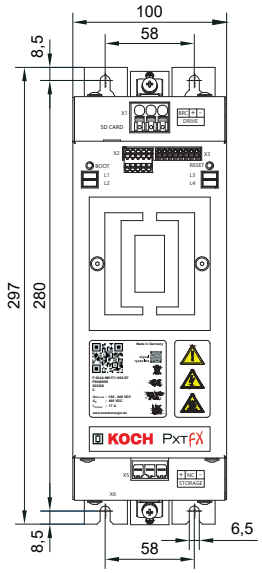
Criteria	PxTFX
Charging protection switch LSS	Connection of charged Energy storage modules interference-free possible (But: No protection against connecting with reverse polarity!)
Max. cable length to DC link	2 m
Max. cable length to energy storage modules	20 m
Parallel operation	Theoretically unlimited number of devices Self-adjusting Automated Master-/Slave-setting for communication
Retrofit	Can be retrofitted into existing systems
Typeplate/Device information	Electronic via QR-Code: Further device specific information Management-features
Internal digital storage	Operation hours meter

Installation dimensions



We look forward
to hearing from you!

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