

PickTerm

Flexible

Dimensioning a PTF System

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English (Translation)



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1 Rules for Dimensioning a PTF System

The following aspects must be taken into account when dimensioning a PTF system:

1.1 Number of Modules / Shelf Displays Connected to a Controller

The maximum number of modules connected to one PTF bus controller is **limited to 500**. This is a theoretical limit with a somewhat reduced performance. For practical systems with quick response times, the number of modules per controller should be **limited to 100 to 150**. The maximum possible number of modules is usually limited by the maximum power of the integrated power supply.

1.2 Capacitance of one Bus Segment

The maximum capacitance of one PTF bus segment should not exceed the **maximum of 30.000pF**. This is the sum of all connected cables, PTF modules / PTF shelf displays and PTF bus rails. This maximum value can be used to calculate a maximum bus cable length (taking the other aspects into account).

Note for PTF-SUB2/PTF-SUB3: The controller contain only one PTF bus driver, even if they have 4 separate bus connections. They therefore correspond to one bus segment, not four.

Capacitance	Value
PTF base profile incl. PTF bus rail	200pF / meter
<u>PTF bus cable KBS:</u> KBL,PTFBUS-4X0.75MM2-LC KBL,PTFBUS-4X0.75MM2-UL-LC KBL,PTFBUS-4X1.00MM2-LC KBL,PTFBUS-4X1.00MM2-UL-LC	100pF / meter
PTF module / PTF shelf display	25pF / unit

If a system is limited only by the maximum capacitance and not by the available power, a PTF-SUBC in bridge mode can be a possible solution.

After the installation of a Pick-by-Light System a check can be made, by supervising the error counters of the different PTF controllers in the system. The software 'PTF-Lader' (available on request) can be used additionally for special tests. The software allows e.g. the sending of some special data streams for test a worst case scenario (function 'capacitance check').

1.3 Voltage Drop within a Bus Segment

In addition to the bus capacitance, the electrical losses in the connecting cables and the PTF bus rails must also be taken into account. At maximum load (i.e. all display elements of all shelf displays are switched on), the PTF bus supply voltage at the end of the bus segment **should not be less than 14 V**.

1.4 Total Power Requirement of all connected PTF Modules

The different modules have different power requirements. Normally the sum of the maximum power consumption (e.g. all LEDs switched on) of all modules connected to a power supply or controller **should not exceed the available power of the controller / power supply.**

In case that this is not avoidable, it is possible to limit the maximum power consumption by the software "KBS Device Manager" (e.g. WinKomm-Base). It allows to configure the maximum power consumption. It monitors the power consumption of the system and reduces the brightness (eye-catching lamp/display), if too many shelf displays are activated on the same time.

2 Power Requirement of the individual PTF Modules

2.1 Shelf Displays

Operating Mode		24V PTF Bus Power Supply			12V PTF Bus Power Supply		
		All OFF	Eye-catching Lamp ON	All ON	All OFF	Eye-catching Lamp ON	All ON
Type of Shelf Display							
PTF-L-1	V20	450mW	1300mW	1600mW	250mW	650mW	750mW
PTF-L-2	V21	600mW	1150mW	1700mW	300mW	550mW	800mW
PTF-L-3	V20	550mW	1350mW	1600mW	300mW	650mW	800mW
PTF-L-4	V00	500mW	N/A	900mW	250mW	N/A	450mW
PTF-L-5	V22	550mW	1500mW	1750mW	400mW	850mW	1100mW
PTF-L-6	V00 ^{*1, *2}	250mW	850mW	850mW	200mW	750mW	750mW
PTF-L-6	V35/36 ^{*1, *2}	300mW	900mW	950mW	200mW	800mW	800mW
PTF-L-7	V00 ^{*1, *2}	350mW	850mW	850mW	250mW	700mW	700mW
PTF-L-7	V35/36 ^{*1, *2}	400mW	950mW	950mW	300mW	800mW	800mW
PTF-LC-1	V00 ^{*1, *2}	250mW	600mW	900mW	150mW	500mW	850mW
PTF-LC-1	V35/36 ^{*1, *2}	300mW	600mW	900mW	200mW	500mW	850mW
PTF-LC-2	V00 ^{*1, *2}	250mW	600mW	900mW	150mW	500mW	850mW
PTF-LC-2	V35/36 ^{*1, *2}	300mW	600mW	900mW	200mW	500mW	850mW
PTF-EP-1	V00 ^{*1}	250mW	600mW	600mW	150mW	500mW	500mW
PTF-EP-1	V35/36 ^{*1, *2}	300mW	600mW	600mW	200mW	500mW	500mW
PTF-EP-2	V00 ^{*1}	250mW	600mW	600mW	150mW	500mW	500mW
PTF-EP-2	V35/36 ^{*1, *2}	300mW	600mW	600mW	200mW	500mW	500mW
PTF-3N-1	V20	200mW	1000mW	1650mW	150mW	550mW	1150mW
PTF-3N-2	V20	200mW	1000mW	1650mW	150mW	550mW	1150mW
PTF-3N-3	V32 ^{*1, *2}	250mW	1100mW	1700mW	150mW	1050mW	1500mW
PTF-3N-4	V00 ^{*1, *2}	250mW	1150mW	1650mW	150mW	1000mW	1550mW
PTF-3N-4	V36 ^{*1, *2}	300mW	1200mW	1700mW	200mW	1050mW	1600mW
PTF-4A-1	V20	250mW	1100mW	2500mW	150mW	550mW	2050mW
PTF-4N-1	V20	250mW	1080mW	1750mW	160mW	600mW	1140mW
PTF-4N-2	V20	300mW	1000mW	1700mW	150mW	550mW	1200mW
PTF-4N-3	V20	200mW	1100mW	1800mW	150mW	550mW	1300mW
PTF-4N-4	V00 ^{*1, *2}	300mW	850mW	1500mW	150mW	750mW	1300mW
PTF-4N-4	V35/36 ^{*1, *2}	350mW	900mW	1550mW	200mW	750mW	1300mW
PTF-6N-1	V20	200mW	1050mW	2100mW	150mW	550mW	1650mW

Operating Mode Type of Shelf Display	24V PTF Bus Power Supply			12V PTF Bus Power Supply		
	All OFF	Eye-catching Lamp ON	All ON	All OFF	Eye-catching Lamp ON	All ON
PTF-6A-1 V20	250mW	1100mW	2950mW	150mW	550mW	2550mW
PTF-6N-2 V00	200mW	500mW	1400mW	150mW	450mW	1350mW
PTF-6N-2 V36	250mW	550mW	1450mW	200mW	500mW	1400mW
PTF-12A-1 V21	300mW	1150mW	3900mW	150mW	600mW	3800mW
PTF-12M-1 V00 *1, *2	300mW	650mW	2150mW	200mW	500mW	1950mW
PTF-12M-1 V35/36 *1, *2	350mW	700mW	2250mW	250mW	600mW	2050mW
PTF-S3N-1	200mW	550mW	1150mW	150mW	300mW	850mW
PTF-S3N-2	650mW	1000mW	1550mW	350mW	550mW	1100mW
PTF-S3N-3 V00 *1, *2	300mW	500mW	1350mW	150mW	350mW	1200mW
PTF-S3N-3 V21/22 *1, *2	350mW	550mW	1450mW	200mW	400mW	1250mW
PTF-SL-1	250mW	350mW	400mW	150mW	250mW	300mW
PTF-SL-2	300mW	400mW	500mW	250mW	350mW	400mW
PTF-SL-3 V00 *1, *2	300mW	500mW	500mW	150mW	350mW	350mW
PTF-SL-3 V21/22 *1, *2	350mW	550mW	550mW	200mW	400mW	400mW
PTF-OL-1 V00 *1, *2	300mW	700mW	1500mW	200mW	550mW	1300mW
PTF-OL-1 V36 *1, *2	300mW	750mW	1800mW	200mW	600mW	1550mW
PTF-SOL-1 V00 *1, *2	300mW	600mW	650mW	150mW	450mW	500mW
PTF-SOL-1 V21/22 *1, *2	350mW	600mW	700mW	200mW	450mW	600mW

*1 The eye-catching lamp up and down are switched on in the operating mode "Eye-catching Lamp ON".

*2 Shelf displays with the option 'EXTERNAL INPUT' can have an additional current on the PTF bus power supply. (see product description)

2.2 Special Modules

Operating Mode Type of Module	24V PTF Bus Power Supply		12V PTF Bus Power Supply	
	All OFF	All ON	All OFF	All ON
PTF-IO-1 *3	650mW	1750mW	264mW	684mW
PTF-ADAPT	1350mW	1350mW	750mW	750mW
PTF-SEKAN-1	N/A	700mW	N/A	520mW

*3 Power section connected internally to the PTF bus voltage (see product description)

2.3 Pointers

Operating Mode Type of Pointer	24V PTF Bus Power Supply		12V PTF Bus Power Supply	
	All OFF	All ON	All OFF	All ON
PTF-PT-2 *4	360mW	2900mW	N/A	N/A
PTF-PT-3 *4	650mW	11000mW	N/A	N/A
PTF-PT-4	300mW	1600mW	150mW	1350mW

*4 12V operating voltage not supported

2.4 Interface Unit / Controller / Zone Displays

Operating Mode Type of Controller	24V PTF Bus Power Supply		12V PTF Bus Power Supply	
	All OFF	ALL ON	All OFF	ALL ON
PTF-SUBC	1550mW	N/A	1150mW	N/A
PTF-SUBC2	1230mW	N/A	870mW	N/A
PTF-PERIF-1	550mW	N/A	400mW	N/A
PTF-ZCTRL V60	2500mW	3600mW	2400mW	3000mW
PTF-ZCTRL2 V00 *1, *2, *5	2350mW	2800mW	1850mW	2300mW
PTF-ZCTRL2 V36 *1, *2, *5	2450mW	2900mW	1900mW	2350mW
PTF-ZDISP V00 *1, *2	2350mW	2800mW	1850mW	2300mW
PTF-ZDISP V36 *1, *2	2450mW	2900mW	1900mW	2350mW
PTF-SUB2 DC	3000mW	N/A	3500mW	N/A

*1 The eye-catching lamp up and down are switched on in the operating mode "Eye-catching Lamp ON".

*2 Shelf displays with the option 'EXTERNAL INPUT' can have an additional current on the PTF bus power supply.
(see product description)

*5 Without Ethernet / connected PTF shelf displays or peripheral devices