

# Integral EvoxX C power calculation

**SCHRACK**  
**SECONET**

project:	ZR-Dům klidného stáří-EPS	valid for IRP 8.4.x
editor:	Ing. Libor Lahodný	calc date: 26.09.2023

**battery configuration:** OK OK OK PRAVDA PRAVDA

battery type:	Yuasa NP 17-12i	nominal capacity	17 Ah	PSU nom. current:	4 A
battery pairs:	2	total capacity:	34 Ah	back-up time	72 h
		back-up time - Alarm:	1 h	back-up time - special detectors sys. (SDS):	72 h

**configuration sub control unit:** Displaylight mode: Std idle current: alarm current:

control panel type:	B9-CII	1	8,00	8,0	27,0
EPI #1-3:	B5-EPI-FPCZ	(-)	6,00	6,0	6,0
basic controller unit:	B9-BCU-X2	1,00	62,00	62,0	62,0
Slot 2	B6-NET2-485		53,00	53,0	53,0
	B9-PSU		13,00	13,0	13,0
					161,0

**+ 0 SFP modules** idle current: alarm current: 0 quantity: idle current: alarm current:

<b>+ 1 MMI Bus devices</b>		idle current:	alarm current:	MMI-EQ	quantity:	idle current:	alarm current:	EPI
(max. 15 TN pro MMI-Bus, max. 8 BDF pro TZ, max. 8 FBF pro TZ)					1			
<b>MMI Bus in Verwendung</b>		2,500	2,500	15	1	2,50	2,50	
B8-MMI-CIP	(ext. panel)	30,000	50,000	1	1	30,00	50,00	1
B8-MMI-CIP+PDR	(ext. panel + printer)	32,000	52,000	1		0,00	0,00	1
B5-MMI-HCIP	(High-End panel)	97,000	97,000	1		0,00	0,00	0
B3-MMI-FPA	(Austria)	14,000	30,000	2		0,00	0,00	0
(-)	(-)	0,000	0,000	0		0,00	0,00	0
B3-MMI-UIO	(1x UIO)	14,000	46,000	2		0,00	0,00	0
B3-MMI-EAT64	(2x UIO)	28,000	92,000	4		0,00	0,00	0
B3-MMI-IPEL	(2x UIO)	28,000	92,000	4		0,00	0,00	0
B5-MMI-PIP	(floor indication panel)	30,000	50,000	1		0,00	0,00	1
(-)	(-)	0,000	0,000	0		0,00	0,00	0
(-)	(-)	0,000	0,000	0		0,00	0,00	0
(-)	(-)	0,000	0,000	0		0,00	0,00	0

<- Numbers of MMI devices (expand with [+])

**+ 0 EPI Bus devices on MMI bus** idle current: alarm current: 3 1 1 1 sub-total: 174,5 213,5 mA

## peripherals:

### X-Line/ DAI/ SXI:

X-Line: 2		X-Line DAI-mode		DAI-Loop 0			
IR [mA]	30	IR [mA]	24	IR [mA]	25		
ILED[mA]	13	ILED[mA]	24	ILED[mA]	24		
IAltyp [mA]	130	IAltyp [mA]	90	IAltyp [mA]	60		
IAlmax [mA]	170	IAlmax [mA]	110	IAlmax [mA]	90		
(DC-DC converter efficiency of 70%)		idle current:	alarm current:	MEQ	quantity:	idle current:	alarm current:
X-Line detector (typ) <sup>3</sup>	(MTD,MCP,CMD,...)	0,120	2,500	1	150	25,71	25,71
MTD533X-Sx(typ)	Detector w. Siren (typ. vol.)	0,150	4,00	1	10	2,14	57,14
LED current (incl. Indicator)	BX-UIPI, USB501-20	0,000	1,00	0		0,00	0,00
BX-Sirenen (typ)	BX-Sirenen (typischer Mix)	0,500	4,00	6		0,00	0,00
BX I/O modules (typ)	(O1,I2,OI3,IM4,REL4,IOM....)	0,550	0,55	4	5	3,93	3,93
BX-AIM (input)	BX-AIM (input)	6,500	8,50	5		0,00	0,00
BX-AIM (MG option)	BX-AIM (MG option)	1,800	8,50	5		0,00	0,00
BX-MDI8	BX-MDI8 (supplied by BMZI!)	0,450	0,45	4		0,00	0,00
BX-WGW	BX-WGW	8,000	8,00	18		0,00	0,00
BX-O2I4	BX-O2I4	0,630	0,63	4		0,00	0,00
(-)	(-)	0,000	0,00	0		0,00	0,00
				sub-total:		31,80	86,80 mA

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valid for IRP 8.4.x

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## Primary input and Series 13x/ 52x lines (EIO a. BX-MDI8)

(max. 1 alarms per line + 5 /MDI8 )

idle current:  
0

alarm current:  
0

MDI8  
quantity:  
0

intern  
quantity:  
0

idle current: alarm current:

sub-total: 0,00 0,00 mA

## other current - miscellaneous

by the panel (with the full back-up time of: 72h)

### monitored outputs

OUT LB1

idle current:  
1,000

alarm current:  
40,000

quantity:  
2

idle current: alarm current:  
2,00 80,00

OUT LB2

3,000

100,000

0,00

0,00

OUT LB3

12,000

500,000

0,00

0,00

### external Devices, power supplied by PSU (VEXT)

(e.g. sirens, door holding magnets, FBP, modems...)

Enter here:

sub-total: 0,00 0,00 mA  
2,00 80,00 mA

## other current - SDS (special detector systems)

SDS which are power supplied

by the panel (with SDS back-up time of: 72h)

idle current: alarm current:

(e.g. aspirating smoke detector,...)

Enter here:

mA

## RESULTS (SDS included)

Details:

SUMME: 0,208 0,300 A

min. charging current (80% in 24h)

nominal capacity \* 0,05

1,70 A

needed battery capacity "idle"

quiescent current \* back-up time "quiescent"

15,00 Ah

needed battery capacity "idle SDS"

quiescent current SDS\* back-up time "quiescent SDS"

0,00 Ah

needed battery capacity "alarm"

alarm current \* back-up time "alarm"

0,30 Ah

needed battery capacity - total

("quiescent" + "quiescent SDS" + "alarm")

15,30 Ah

free available alarm current

max. output current - alarm current

3,70 A

free available idle current, buffered

(eff. bat. capacity - needed bat. capacity) / back-up time

0,26 A

free available quiescent current, unbuffered

max. output current - quiescent cur. - min. charging cur.

2,09 A

max. value at PSU battery current measuring

B8-PSU - built in current measuring per SW

-- mV

idle current at PSU battery current measuring

B8-PSU - built in current measuring per SW

-- mV

max. back-up time

(battery capacity - battery capacity "alarm") / idle current (L3)

161,8 h

<- (expand with [+])

back-up time ("quiescent"+"alarm") (=161,8h)

eff. battery capacity > required battery capacity

OK

battery charge >80% capacity in 24h

(max. output cur. - quiescent cur.) > min. charging cur.

OK

Power supply unit load

(Alarm current < max. PSU current)

OK