

Titel: Smart Manager 4.0

Pin configuration Raspberry Pi CM3+



Peripheral	DIR	Used Function	Pin Name	Pin	Pin	Pin Name	Used Function	DIR	Peripheral
Power supply ground	-	Power	GND	1	2	EMMC_DISABLE_N	EMMC_DISABLE	I	Disable SD/eMMC Interface
not connected	-	NC	GPIO0	3	4	SDX_VDD	Power	-	Primary SD/eMMC Supply Voltage
not connected	-	NC	GPIO1	5	6	SDX_VDD	Power	-	Primary SD/eMMC Supply Voltage
Power supply ground	-	Power	GND	7	8	GND	Power	-	Power supply ground
1) Real Time Clock	I/O	I2C - SDA	GPIO2	9	10	SDX_CLK	SDX_CLK	O	microSD Card - SPI CLK
Real Time Clock	O	I2C - SCL	GPIO3	11	12	SDX_CMD	SDX_CMD	O	microSD Card - SPI CMD
Power supply ground	-	Power	GND	13	14	GND	Power	-	Power supply ground
2) Push-Button On/Off	I	GPIO	GPIO4	15	16	SDX_D0	SDX_D0	I/O	microSD Card - SPI DAT0
Push-Button Service	I	GPIO	GPIO5	17	18	SDX_D1	SDX_D1	I/O	microSD Card - SPI DAT1
Power supply ground	-	Power	GND	19	20	GND	Power	-	Power supply ground
/Reset LAN9514 Controller USB1	O	GPIO	GPIO6	21	22	SDX_D2	SDX_D2	I/O	microSD Card - SPI DAT2
not connected	-	NC	GPIO7	23	24	SDX_D3	SDX_D3	I/O	microSD Card - SPI DAT3
Power supply ground	-	Power	GND	25	26	GND	Power	-	Power supply ground
3) FRAM - SPI /chip select	O	SPI0_CEO_N	GPIO8	27	28	GPIO28	NC	-	not connected
FRAM - SPI MISO	I	SPI0_MISO	GPIO9	29	30	GPIO29	NC	-	not connected
Power supply ground	-	Power	GND	31	32	GND	Power	-	Power supply ground
3) FRAM - SPI MOSI	O	SPI0_MOSI	GPIO10	33	34	GPIO30	NC	-	not connected
FRAM - SPI CLK	O	SPI0_CLK	GPIO11	35	36	GPIO31	NC	-	not connected
Power supply ground	-	Power	GND	37	38	GND	Power	-	Power supply ground
Supply for I/O Bank 0-27	-	Power	GPIO0-27_VDD	39	40	GPIO0-27_VDD	Power	-	Supply for I/O Bank 0-27
KEY									
Supply for I/O Bank 28-45	-	Power	GPIO28-45_VDD	41	42	GPIO28-45_VDD	Power	-	Supply for I/O Bank 28-45
Power supply ground	-	Power	GND	43	44	GND	Power	-	Power supply ground
4) LED Status	O	GPIO	GPIO12	45	46	GPIO32	TXD1	O	Expansion bus connector Transmit
LED Error	O	GPIO	GPIO13	47	48	GPIO33	RXD1	I	Expansion bus connector Receive
Power supply ground	-	Power	GND	49	50	GND	Power	-	Power supply ground

- 1) Accurate RTC with integrated quartz crystal: NXP Semiconductor PCF2129AT
- 2) Push-Button input signals are active low
- 3) 64K (8K x 8) SPI Memory FRAM: Fujitsu Semiconductor MB85RS64V
- 4) LED output signals are active high

- 5) See Compute Module Datasheet page 14
- 6) Not connected in variants with internal eMMC Flash device
- 7) Phoenix Contact HBUS connector, pin 13
- 8) Phoenix Contact HBUS connector, pin 14

Titel: Smart Manager 4.0

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not connected	-	NC	GPIO14	51	52	GPIO34	GPIO	0	/Reset LAN9514 Controller USB1
not connected	-	NC	GPIO15	53	54	GPIO35	GPIO	1	Powergood signal ¹²⁾
Power supply ground	-	Power	GND	55	56	GND	Power	-	Power supply ground
not connected	-	NC	GPIO16	57	58	GPIO36	TXD0	0	RS485_1 Interface Transmit
not connected	-	NC	GPIO17	59	60	GPIO37	RXD0	1	RS485_1 Interface Receive
Power supply ground	-	Power	GND	61	62	GND	Power	-	Power supply ground
not connected	-	NC	GPIO18	63	64	GPIO38	NC	-	not connected
not connected	-	NC	GPIO19	65	66	GPIO39	NC	-	not connected
Power supply ground	-	Power	GND	67	68	GND	Power	-	Power supply ground
not connected	-	NC	GPIO20	69	70	GPIO40	GPIO	0	Expansion bus enable ¹³⁾
not connected	-	NC	GPIO21	71	72	GPIO41	GPIO	0	optional cooling fan output (PWM)
Power supply ground	-	Power	GND	73	74	GND	Power	-	Power supply ground
FRAM - /write protect	0	GPIO	GPIO22	75	76	GPIO42	GPIO	0	switch RS232 / RS485 ¹⁴⁾
9) Overvoltage	1	GPIO	GPIO23	77	78	GPIO43	GPIO	0	optional RS232 Fast Mode enable ¹⁵⁾
Power supply ground	-	Power	GND	79	80	GND	Power	-	Power supply ground
10) Undervoltage	1	GPIO	GPIO24	81	82	GPIO44	NC	-	not connected
FRAM - /hold	0	GPIO	GPIO25	83	84	GPIO45	NC	-	not connected
Power supply ground	-	Power	GND	85	86	GND	Power	-	Power supply ground
/Reset FTDI UART Bridge	0	GPIO	GPIO26	87	88	HDMI_HPD_N_1V8	HDMI Hot plug detect	1	HDMI Connector receptable
11) Expansion bus error	1	GPIO	GPIO27	89	90	EMMC_EN_N_1V8	EMMC_EN	0	Enable SD/eMMC Interface
Power supply ground	-	Power	GND	91	92	GND	Power	-	Power supply ground
not connected	-	NC	DSIO_DN1	93	94	DSI1_DP0	NC	-	not connected
not connected	-	NC	DSIO_DP1	95	96	DSI1_DN0	NC	-	not connected
Power supply ground	-	Power	GND	97	98	GND	Power	-	Power supply ground
not connected	-	NC	DSIO_DN0	99	100	DSI1_CP	NC	-	not connected

- 9) Power supply overvoltage detection at $V_{IN} \geq 29.8V$
 10) Power supply undervoltage detection at $V_{IN} \leq 19V$
 11) Phoenix Contact HBUS connector, pin 15, 16

- 12) Monitors internal +5V Voltage. $V_{th} = 4.63V$
 13) Phoenix Contact HBUS connector, pin 17, 18
 14) Single-Bus RS485/Rs232 Multiprotocol Transceiver LTC2873
 15) maximum data rate of 1Mbps in fast mode

Titel: Smart Manager 4.0

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not connected	-	NC	DSI0_DP0	101	102	DSI1_CN	NC	-	not connected
Power supply ground	-	Power	GND	103	104	GND	Power	-	Power supply ground
not connected	-	NC	DSI0_CN	105	106	DSI1_DP3	NC	-	not connected
not connected	-	NC	DSI0_CP	107	108	DSI1_DN3	NC	-	not connected
Power supply ground	-	Power	GND	109	110	GND	Power	-	Power supply ground
HDMI Connector receptable	O	HDMI TMDS Clock -	HDMI_CLK_N	111	112	DSI1_DP2	NC	-	not connected
HDMI Connector receptable	O	HDMI TMDS Clock +	HDMI_CLK_P	113	114	DSI1_DN2	NC	-	not connected
Power supply ground	-	Power	GND	115	116	GND	Power	-	Power supply ground
HDMI Connector receptable	O	HDMI TMDS Data0 -	HDMI_D0_N	117	118	DSI1_DP1	NC	-	not connected
HDMI Connector receptable	O	HDMI TMDS Data0 +	HDMI_D0_P	119	120	DSI1_DN1	NC	-	not connected
Power supply ground	-	Power	GND	121	122	GND	Power	-	Power supply ground
HDMI Connector receptable	O	HDMI TMDS Data1 -	HDMI_D1_N	123	124	NC	-	-	-
HDMI Connector receptable	O	HDMI TMDS Data1 +	HDMI_D1_P	125	126	NC	-	-	-
Power supply ground	-	Power	GND	127	128	NC	-	-	-
HDMI Connector receptable	O	HDMI TMDS Data2 -	HDMI_D2_N	129	130	NC	-	-	-
HDMI Connector receptable	O	HDMI TMDS Data2 +	HDMI_D2_P	131	132	NC	-	-	-
Power supply ground	-	Power	GND	133	134	GND	Power	-	Power supply ground
not connected	-	NC	CAM1_DP3	135	136	CAM0_DP0	NC	-	not connected
not connected	-	NC	CAM1_DN3	137	138	CAM0_DN0	NC	-	not connected
Power supply ground	-	Power	GND	139	140	GND	Power	-	Power supply ground
not connected	-	NC	CAM1_DP2	141	142	CAM0_CP	NC	-	not connected
not connected	-	NC	CAM1_DN2	143	144	CAM0_CN	NC	-	not connected
Power supply ground	-	Power	GND	145	146	GND	Power	-	Power supply ground
not connected	-	NC	CAM1_CP	147	148	CAM0_DP1	NC	-	not connected
not connected	-	NC	CAM1_CN	149	150	CAM0_DN1	NC	-	not connected

Titel: Smart Manager 4.0

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Power supply ground	-	Power	GND	151	152	GND	Power	-	Power supply ground
not connected	-	NC	CAM1_DP1	153	154	NC	-	-	-
not connected	-	NC	CAM1_DN1	155	156	NC	-	-	-
Power supply ground	-	Power	GND	157	158	NC	-	-	-
not connected	-	NC	CAM1_DPO	159	160	NC	-	-	-
not connected	-	NC	CAM1_DN0	161	162	NC	-	-	-
Power supply ground	-	Power	GND	163	164	GND	Power	-	Power supply ground
16) Internal USB Port	I/O	USB Data +	USB_DP	165	166	TVDAC	NC	-	not connected
Internal USB Port	I/O	USB Data -	USB_DN	167	168	USB_OTGID	NC	-	not connected 18)
Power supply ground	-	Power	GND	169	170	GND	Power	-	Power supply ground
HDMI Connector receptable	I	HDMI CEC	HDMI_CEC	171	172	VC_TRST_N	NC	-	not connected
HDMI Connector receptable	I/O	HDMI I ² C Data	HDMI_SDA	173	174	VC_TDI	NC	-	not connected
HDMI Connector receptable	O	HDMI I ² C Clock	HDMI_SCL	175	176	VC_TMS	NC	-	not connected
17) Push-Button Controller	I	RUN	RUN	177	178	VC_TDO	NC	-	not connected
DO NOT CONNECT	-	Internal Core Supply	VDD_CORE	179	180	VC_TCK	NC	-	not connected
Power supply ground	-	Power	GND	181	182	GND	Power	-	Power supply ground
1V8 Supply Voltage	-	Power	1V8	183	184	1V8	Power	-	1V8 Supply Voltage
1V8 Supply Voltage	-	Power	1V8	185	186	1V8	Power	-	1V8 Supply Voltage
Power supply ground	-	Power	GND	187	188	GND	Power	-	Power supply ground
TV DAC Supply	-	Power	VDAC	189	190	VDAC	Power	-	TV DAC Supply
3V3 Supply Voltage	-	Power	3V3	191	192	3V3	Power	-	3V3 Supply Voltage
3V3 Supply Voltage	-	Power	3V3	193	194	3V3	Power	-	3V3 Supply Voltage
Power supply ground	-	Power	GND	195	196	GND	Power	-	Power supply ground
Core SMPS Supply Voltage	-	Power	VBAT	197	198	VBAT	Power	-	Core SMPS Supply Voltage
Core SMPS Supply Voltage	-	Power	VBAT	199	200	VBAT	Power	-	Core SMPS Supply Voltage

16) Used for several interfaces e.g. Ethernet, external USB and expansion bus connector

18) The CM3+ modules USB port is On-The-Go capable. However, USB OTG is not supported

17) Press both Push-Buttons for more than 7.5 sec to trigger hardware-based reset