

Brief JouKo Countryside Control device HW information

Internal / external power supply	<p>1. Internal GSM DC supply : Mean Well IRM-10-5 SMPS (CE marked) AC to 5 V 2 A DC on a breadboard with a box type EMI shield of Copper. The box is connected to PE (Protective Earth) in. With varistor and double high voltage zeners at input. With standard EMI conductive suppression LC-circuits at input (X capacitor and two Y-capacitors). With an LC circuit at output. A low drop-out linear regulator on the motherboard then generates 4 V 2 A for the GSM 2G radio chip SIM800.</p> <p>2. Internal Voltage sources to other circuits than the GSM chip :</p> <p>Linear mains transformer , double secondary. Two full diode bridges. 7812 generates + 12 V. LM337 generates – 12 V. + 12 V is stored at a 10000 uF capacitor. With -12 V we steer the 3 pieces of 12 V input relay coils. The relays conduct AC power always if not prevented by the Raspberry. Two more LM337s are generating +5 V and +3.3 V. The RaspBerry 1 Model A+ uses + 5 V. Connect the internal +5 V to the Raspberry via its USB connector. The Laird LoraWAN / Bluetooth chip RM-186 and the A/D use 3.3 V.</p> <p>The external switch cuts +5 V from the Raspberry at “ not ON “ always while the SD Flash is exchanged.</p>
Radiation sources: (x-ray, radioactive, laser, UV light, high intensity light) NOTE: X-ray and radioactive radiation source must be blocked	No
Dangerous fluids or gases used :	No
Water pipe connection needed	No

1. Cables and ports

• Cable purpose (e.g mains, control, data):	Connected from-to	Length (max)	Type (e.g. two-wire, cat5, coax, etc.)	Shielded
Cable: 3-Phase power in	400V 5-wire 3-Phase 16 A European electric power in. Board marking “IN”	4 m	5 x 2.5 mm ² , with std 3-Phase power in male connector	No
Cable: 3-Phase power out	400 V 5-wire 3-Phase 16 A European electric power out. Board marking “OUT”	4 m	5 x 2.5 mm ² , with std 3-Phase power out female connector	No
Cable:		m		Yes No
Cable:		m		Yes No
Cable:		m		Yes No
Cable:		m		Yes No
Cable:		m		Yes No
Cable:		m		Yes No
Cable:		m		Yes No
Auxiliary devices: GSM 2G dipole antenna. Is attached to the GSM RF connector . Prevent users to touch the GND metal of the base of this antenna, e.g. by applying non-conductive glue on the visible GND part. The SD Flash connector of the device is of the springed type.				