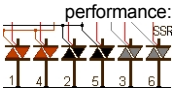
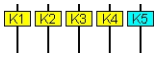
GBO-AKU Datasheet

Supply voltage:	230V 50Hz (connection to the phase to which the PV is connected is necessary)
Allowed voltage at terminals:	- upper terminal block (next to LEDs): 5V DC - lower terminal block (power supply for controller and relay contacts): 250V 50Hz (single phase on all terminals!)
bipolar analog inputs:	3 inputs, range {-2.5V ... +2.5V DC} (against Vcc/2 terminal) 10 bit D/A conversion, for external current transformers + optional: one built-in current. transformer 0 ... 12A~ (for single phase version)
unipolar analog inputs:	2 inputs, range {0V ... +5.0 V DC} (against GND terminal) 10 bit D/A conversion, for battery voltage and current sensors
digital (two-state) inputs:	1 input 0/5V, (against GND terminal) for reading NT signal by potential-free contact
digital outputs for smooth control performance: 	6 outputs with 5V/20mA control signal: (for external SSR) • currently available firmwares of the double series, supporting only 3 outputs • Firmwares for the triple series, supporting all 6 SSRs, are in preparation. The first beta version of the "3PI" firmware v.3000 is available at this link. 1.) (standard) for SSR (solid state relay) with zero switching (pulse modulation), optional: • switches after single, whole sine wave periods (always both half waves - without DC component and RF interference, but source of flicker) • switches after half-periods (minor flicker, DC component) • switches in one-second cycles (combination of three states: off; every other half-period; on) (the most favourable flicker rate when switching at zero) 2.) or (using the firmware "phctrl") for SSR with instantaneous switching (phase control (*) - this design does not generate flicker, b u t generates higher harmonics) each single output can control 2 SSRs of the recommended type (with a control electrode consumption of 8.5mA/5V), and can thus symmetrically control a 3-phase appliance
relay outputs: 	5 relays in total, each with 230V~/5A switching contact: 4 x relays for sequential load connection 1 x relay (K5) with selectable function: switching clock, fifth relay of the cascade, or overload indication
other outputs:	+5V/20mA output for DC current sensor power supply
data interface for communication with PC:	RS485, MODBUS protocol, (9600,8,N,1)
regulation of consumption of surplus from PV power plants:	for the time being, the first stage of each phase has a continuous power control of 0 ... 100% (in the single-phase version up to a cascade of three continuously controlled appliances), prospectively there will be a cascade of two continuously controlled appliances in the first stage of each phase, in the single-phase v e r s i o n a cascade of up to six continuously controlled appliances in the next stages, connecting unregulated appliances with simultaneous regulation in the first stage
galvanic isolation: electrical strength between electronics (5V DC - upper terminal block) and power part (230v AC - lower terminal block):	4kV 50Hz, 1 minute
degree of protection (EN 60529):	IP 20
Recommended environment (CSN 33 2000-3):	class AB4 (-5...40°C, 5...95% RH)
Permissible storage conditions:	-15...70°C, 5...95% RH
dimensions [mm] (w,h,d):	105 x 95 x 59 (MODULBOX 6M cabinet)