Intelligent ripple control receiver
LCR 120 (for DB board mounting)

The LCR120 is a high-quality ripple control receiver. It can be used in standard ripple control applications as well as in modern systems with “Distributed Intelligence” as a remotely programmable tariff switching unit.

The operation of the internal clock during a power failure can be maintained for a few days via a built in super-cap (option).

Features
♦ Digital filtering of the ripple control signal via the micro-controller
♦ Processing of all conventional ripple control protocols and their specific pulse patterns
♦ Processing of a second protocol with secured data transmission according to DIN 43861-301 (VERSACOM)
♦ Remote parameterisation of switching times and weekday assignment of the work schedules (using the VERSACOM protocol)
♦ Enable/disable work schedules
♦ Switch-on status (a/b) programmable
♦ Cycling switching function (Relay 1)
♦ Switching delay for switch-on operations (1 s – 24 h)
♦ Wiping timer function (1 s – 24 h)
♦ Ripple control signal absence detection (e.g. for enabling a work schedule)
♦ Memorized schedule function (Relay 1 and 2)

Internal clock features
♦ Internal clock (remotely synchronically) for autonomous operation of work schedules (weekday based)
♦ Real-time clock with super-cap (option), voltage interruptions can be bridged for a minimum of 48 hours
♦ Up to 32 schedules programmable per receiver
♦ Up to 14 switching times programmable per work schedule
♦ Free assignment of work schedules to the relays
♦ Changes of switching times from the central master control station using the VERSACOM protocol, or locally via the programming interface

Supervision features
♦ Storage of pulse pattern and signal level of the last telegram received
♦ Signal absence sensing, detection of transmitter failures
♦ Counter for number of switching actions per relay

Programming and test equipment
Programming is performed as standard via the RS 232 serial interface (also possible when receiver is without its own power supply).

Output relays
The receiver is fitted as standard with one load relay, rated at 40A. In addition, a second relay rated at 6A and suitable for switching TOU registers can also be fitted. Both relays are directly soldered to the PCB.
Technical Data

Power supply:
- Mains voltage: 230V + 11%...-22%
- Mains frequency: 50Hz +1%...-2%
- Power consumption: < 1W/10VA cap.
- Surge voltage resistance: 8kV 1,2/50 according to DIN EN 61 037

Filter data:
- Operating frequency: 158Hz - 350Hz
  350Hz - 1350Hz
- Selection of operating frequency: Programmable, freely selectable
- Minimum operating voltage: Uf > 0.5% Un
- Non-operating voltage: Unf < 0.3% Un
  or according to agreement
- Maximum operating voltage: 8-15 times Uf (dependent on frequency)

Output data:
- Relay 1: Bistable
  Nominal switching voltage Uc: 250V, 50Hz or 60Hz
  Nominal switching current Ic: 40A, cos phi = 1
  16A, cos phi = 0,4 ind.
  Normally closed contact, potential free
- Relay type (status a/b programmable)
- Relay 4: Bistable
  Nominal switching voltage Uc: 250V, 50Hz or 60Hz
  Nominal switching current: 6A, cos phi = 1
  4A, cos phi = 0,4 ind.
  Normally closed contact, potential L1
- Terminal size: Power supply and TOU relay 2: 2 x 2,5 mm²
  40A load relay 1: 1 x 10 mm²

Internal clock (Option):
- Back up: > 48 h
- Accuracy: 5 +/- 23 ppm

Climatic conditions:
- Operating temperature: -20...+60°C
- Storage temperature: -30...+60°C
- Type of protection: IP 51

Dimensions:
- H=92mm, W=37mm, D=65mm

Connection diagram

Housing
The ripple control receiver housing is designed to be mounted on a DIN - rail. For mounting on a wall a cover is available.

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