TECHNICAL MANUAL

ACC-RS

Applicable for the FUJITSU-
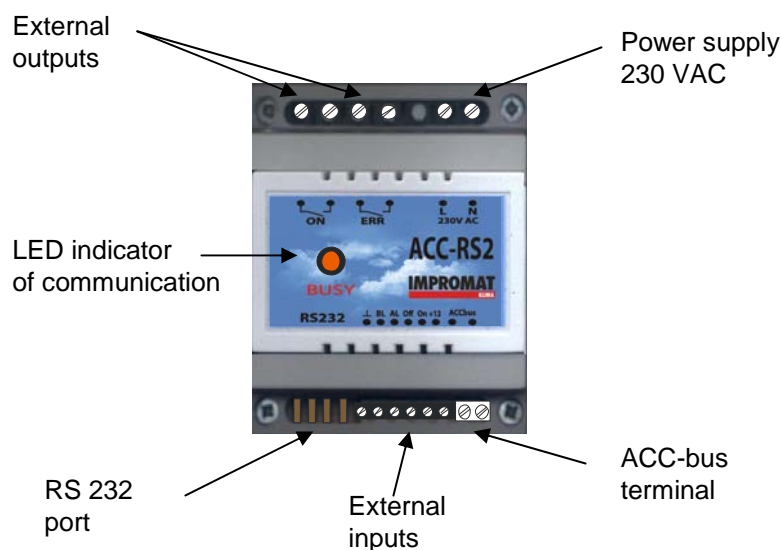GENERAL indoor units of
split and multisplit types

IMPROMAT
KLIMA

DESCRIPTION

ACC-RS module for the data collection from ACC-bus with RS-232 interface.

The module is equipped with an external inputs and outputs in addition.

External outputs

Power supply 230 VAC

LED indicator of communication

RS 232 port

External inputs

ACC-bus terminal

INSTALLATION

1. **Placing:** The module is designed for mounting on the DIN rail. IP20 protection enables its location in indoor enviroment or in outdoor distribution box.

2. **Power supply:** The power supply is 230 VAC/50Hz, the input power is 2W.

3. **Communication line:** The communication between modules is running on the ACC-bus. Used connecting cable must be the type of shielded twisted pair. Suitable cable is for example the cable of LonWorks specification used for communication VRF-S,V,VII systems. Shielding of individual sections of communication cable must be connected to each other, with grounding in one place on the GND teminal of ACC-RS central unit.

4. **Connecting of RS-232 cable:** RS-232 cable (in accessory) is used for connection of ACC-RS module to serial COM port of PC. In case of using the extension cable the total connection lenght may be maximum 10 m (in an enviroment without electromagnetic interference).

5. **External outputs:** Two dry contacts with maximum loading 230 VAC / 2 A. Output „Operation" is closed if at least one indoor unit is in operation mode. Output „Error" is closed if at least one indoor unit is failed.

6. **External inputs:** Contact enable connection of external contacts loaded with current of 10mA at voltage of 12 VDC:
- **„ON"** – All units switch-on (the operation is triggered by rising edge of pulse)
- **„OFF"** – All units switch-off (the operation is triggered by rising edge of pulse)
- **„AL"** - Alarm loop. Contact opening generates the Alarm signal in status word of PC-Controller.
- **„BL"** - Blocking of operation. All units switch-off. During the switching of contact the units can not be switched-on in any way. After the end of pulse the units will remain switched-off and they can be switched-on by any of possible ways.

SOFTWARE

PC Controller software consists of ACC Service Tool for setting and testing of system and of user application ACC Server.

ACC SERVICE TOOL

ACC Service Tool runs by ACCstool.exe. You can set:
- PC controller adress
- Number of connected interface modules (by entering the adress of last interface module)
- set the adresses and types of all interface modules

1. Setting the parameters of Central unit ACC-RS:
Command structure:
> **PSCU=cci**

where
> **c** - 00..FF adress of PC-controller
> **i** - 0..F adress of last interface (ie. the number of interface modules)

2. Setting the parameters of Interface modules ACC-WIRE / ACC-IR:
Command structure:
> **AcciA,PSIP=Aju**

where
> **c** - 00..FF adress of PC-Controller
> **i** - 0..F old interface adress (it is also possible set to **L** - as broadcast, i.e. setting of arbitrary unit
> => in same time must be connected only one interface)
> **j** - 0..F new interface adress
> **u** - A..D(F) IR code of indoor unit / WIRE controller type
> (A=MASTER-UTB-YUB, B=SLAVE-UTB-YUB, C=MASTER-UTY-RNKY,
> D=SLAVE-UTY-RNKY, E=MASTER-UTB-YUD/UTY-RNNYM, F=SLAVE-UTB-YUD/UTY-RNNYM)

The setting of the interface module can be checked by command:
AcciA,PSIP=?

The setting can be made either by codes sending from the command lines, or simply by matching the windows „Control unit setup" and „Interface port setup".
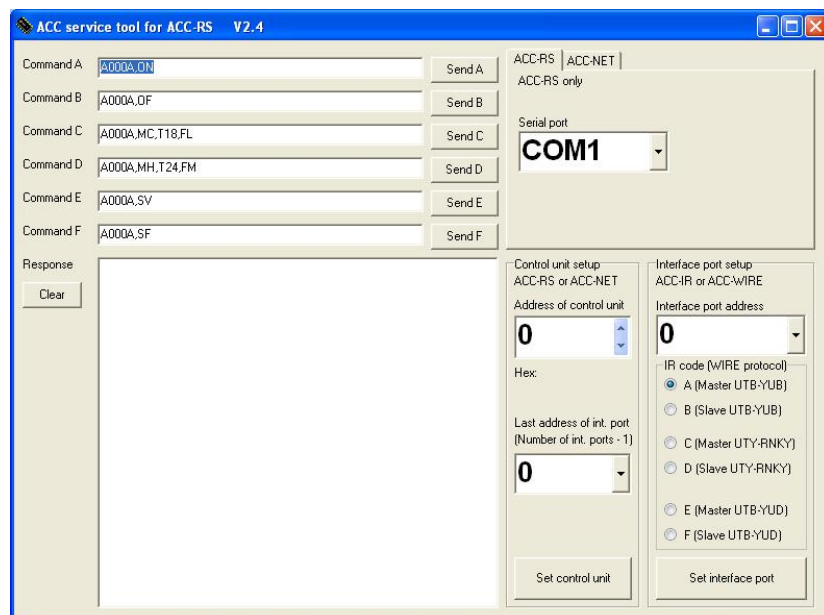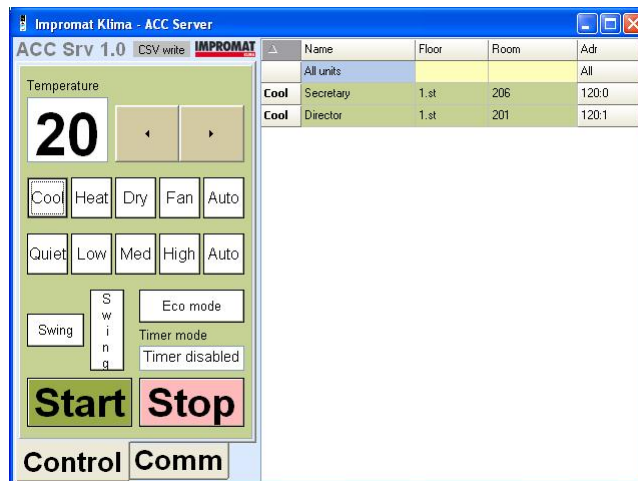
ACC SERVER

ACC Server is user application for remote controlling and monitoring of individual indoor units connected to ACC-bus.

ACC Server Program allows the controlling of indoor units in range of remote controller functions (without timer functions) and tabular display its operation status.

ACC Server runs by execute of ACCV25.exe file.

COMMUNICATION WITH A SUPERSET CONTROL SYSTEM

ACC PC Controller can communicate with an superset control system by ASCII strings through the RS-232 line.

Description of the communication codes are in following table.

COMMUNICATION CODES

ACC PC-Controller communicate with superset control system by ASCII strings through RS-232 line.

Setting of serial port:

    PC Port: COM1 (factory setting, it can be changed in ACCstool.ini file)
    Setting of COM port: 9600 Baud, Parity:none, Stopbit:1 Data:8bit

Structure of command line:
    xxx,xxx,xxx,xxx,xxx<CR>

Description of commands:
Acciu - adress setting
    c - 00..FF controller adress (LL = broadcast Control Unit)
    i - 0..F interface adress (L = broadcast Interface Port)
    u - A..D IR codes – only by response (it is set in Interface Port) - by WIRE model
        (A=MASTER B=SLAVE)
                                      e.g. A785B,

ON – switch on
OF – switch off

Ttt – temperature setting
    tt - 16 .. 30°C   *e.g. T18,*

Mm – mode setting
        m - ACDFH -   A=auto
                            C=cool
                            D=dry
                            F=fan
                            H=heat   *e.g. MC,*

Ff – fan setting
        f - AHML -   A=auto
                            H=high
                            M=med
                            L=low   *e.g. FM,*

Ss – swing setting
        s - FHVB -   F=off
                            H=horizontal
                            V=vertical
                            B=both   *e.g. SH,*

Dd – air flow direction
        d - HV -   H=horizontal
                          V=vertical   *e.g. DV,*

Ee - energy save setting
        e - FN -   F=off
                          N=on   *e.g. EN,*
RI – Reset interface

■ The commands may be merged, but always they must begin with an adress   *e.g. A781B,ON,MC,T17*

■ Between the individual command strings (containing one or group of commands) there must be at least 2 s pause.

■ Timer functions are not supported.

STATUS DISPLAY

The state informations are periodically sent by the system. The status may be also displayed by the command:
? – show status

The status string have a constant lenght for easier to decode.
> *e.g.   A011B,E0003,ON,MC,T26,FM,EF,SF,TA+23,TB.NA,VI01,LSF*
> *A011B,E-OK-,OF,MC,T26,FM,EF,SF,TA.NA,TB-03,VW02,LSF*

The status string also contains those informations:

Exxxx - error status
> xxxx – error code
> -OK-   if the unit is O.K.

Vtxx - version
> t – interface type I – ACC-IR, W – ACC-WIRE
> xx - firmware version

LSN (loop secure closed = OK), or
LSF (loop secure open = Alarm)

TAstt,TBstt – temperatures of the external sensors ATS-A and ETS-B
If the sensor is not connected, then is displayed **.NA**

> *e.g.   TA+22,TB-05,*
> *TA.NA,TB+21,*

Status changes:
> **@A** – alarm event
> **@E** – error event
> **@O** - status OK restored