Fire Alarm Transmission System STAP 2009

STEKOP

Fire alarms transmission system STAP2009 has been developed for the purpose of monitoring of fire alarms and fault signals generated in the local fire alarm reporting systems with direct communication of second degree alarms to the State Fire Service dispatcher, according to provisions of Regulation of the Ministry of Interior Affairs and Administration of 27 April 2007 and the Polish Standard PN-EN 54-21.

The STAP 2009 system includes:

- DN-1 transmitters for fire alarm and status signalling to receiving stations (SOAP and SOSU);
- NSMAP receiving stations:
  - configured to receive fire alarms, installed in the State Fire Service units and used for receiving signals from DN-1 fire alarm transmitters;
  - configured to receive fault signals, installed in the Monitoring Centres of Monitoring System Operator;
- System management support software for System Operators.

To transmit signals from the supervised premises, the STAP 2009 system uses two independent transmission paths, each ensuring two-way communications with receipt confirmation. The primary transmission path is the radio path using the VHF band (150 - 172 MHz). Due to the frequency range of the radio path, the DN-1 transmitter comes in two versions: for the VHF-L band (150 - 160 MHz) and for the VHF-H band (160-172MHz). The secondary (backup) transmission path of the DN-1 transmitter is a system using switched lines in the PSTN public telecommunications network.

NSMAP receiving stations, depending on programmable configuration, can be used as Fire Alarm Receiving Stations (SOAP) or Fault Signals Receiving Stations (SOSU). The stations have a built-in GSM/GPRS modem that is used as a service link for the remote setup of working parameters of the station, editing objects (adding, deleting, changing the configuration), and for remote updating of NSMAP firmware.
NSMAP stations have a built-in information display and service panel (SPI) in the form of a text LCD display with backlight and a keyboard. The NSMAP station is designed to work with other Information Display Systems, including the decision support system SWD ABACUS used by the Polish Fire Service, and the operator's management system PALLADION and a touch panel with Panel NSMAP software (remote, local control panel). NSMAP station has a built-in backup power supply (battery) ensuring continued operation for at least 0.5 hours after a 230V power supply loss. The NSMAP station is designed for installation in a 19" rack or as a standalone device installed directly at the units of the Polish Fire Service.

Central control of NSMAP stations, including defining objects in the system, setting up the operating parameters of DN-1 transmitters and NSMAP receiving stations, monitoring their work and continuity of operation of the whole system, takes place from the level of the management application of the System Operator's Monitoring Centre (CMOS). In addition, each STAP2009 system device can be set up and monitored via a dedicated service application.

The STAP2009 system has an EC Certificate of Conformity awarded by the Building Research Institute (ITB), and a Fire Protection Approval Certificate awarded by Scientific and Research Centre for Fire Protection (CNBOP).

Technical specifications of NSMAP station

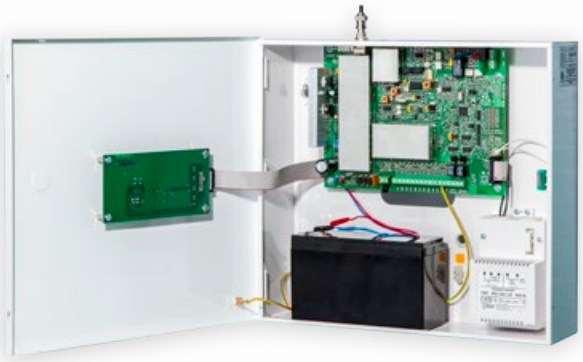
Maximum number of supported transmitters 400
Transmission paths supported:
- radio link in VHF band ..... 1 path
- switched link in public telecommunications network PSTN ..... 1 path

Supported transmitter protocols:
- radio link ..... LARS, LARS 1, LARS negated, LARS 1 negated
- switched link ..... Radionics 4/2 1300Hz and 2300Hz, SIA 2003 Level 1a

Transmission parameters achieved by the system (in accordance with PN-EN 50136-1-1):
- radio path:
  - transmission time D4
  - transmission time – maximum value M4
  - UTA monitoring time T3
  - transmission system availability A4
  - device substitution protection S1
  - security of information I0
- switched path in PSTN public telecommunications network:
  - transmission time D2
  - transmission time – maximum value M2
  - UTA monitoring time ..... T2 (whole link), T5 (network access)
  - transmission system availability A4
  - device substitution protection S1
  - security of information I0

Main log size ..... 1GB÷4GB
Backup log size ..... 35 MB (after compression)
Maximum number of events to queue 100
Maximum event receiving and processing time ..... 400 ms
Power supply
- main power supply ..... 230V AC
- backup power supply ..... 12V/7.5Ah battery

Running time in backup power mode 0,5h
Number of serial ports 2
Number of Ethernet ports 2
Display ..... LCD, 4 lines of 40 characters
Keyboard ..... 4x4 matrix
Working temperature range ..... 5÷40°C
NSMAP weight (without batteries) ..... 5,9 kg
Dimensions ..... 482 x 90 x 302 mm



Technical specifications of DN-1 transmitter

Fire alarms and fault signals transmission path:

- basic link ..... radio path in VHF band
- backup link ..... switched path in PSTN public telecommunications network
- Radio modem:
  - frequency range ..... 150-160MHz (L version) / 160-172MHz (H version)
  - channel spacing 12,5kHz
  - operating channel ..... programmable from frequency range
  - transmitter power ..... 1W / 5W (programmable)
  - receiver sensitivity ..... -117dBm @ SINAD=12dB
  - modulation type ..... FM (AFSK/FSK)
  - transmission speed ..... max. 600bit/s
  - transmission format ..... LARS with conf. / LARS 1 with conf. / LARS negated with conf
    LARS / LARS1 / LARS negated / Milcol-D / Nr4-k3 (programmable)
  - working mode ..... one-way (LARS with conf. / LARS with conf. / LARS negated with conf.)
    two-way (LARS / LARS1 / LARS negated / Milcol-D / Nr4-k3)
  - antenna connector ..... BNC / 50 Ω
  - additional features ..... antenna connection detection
- Phone modem:
  - phone dialer ..... DTMF
  - transmission format ..... SIA 2003 Level 1a / Radionics 4/2 1400Hz or 2300Hz (programmable)
  - transmission speed ..... 10bit/s (Radionics 4/2,1400Hz), 40bit/s (Radionics 4/2,2300Hz), 110bit/s (SIA)
  - additional features ..... phone line disconnection detection

Inputs ..... 8 NC/NO inputs, double-parameterized /2EOL (programmable)

Outputs:

- alarm signal receipt confirmation ..... relay contacts NC/NO, 1A@24V_{DC}
- fault in transmission path ..... relay contacts NC/NO, 1A@24V_{DC}

Service port:

- type ..... USB2.0 (standard) / RS232 with galvanic isolation (optional)
- transmission format 9600bit/s, 8N1

Power supply:

- main power supply ..... ~230V/50Hz power network
- backup power supply ..... 12V/7.5Ah battery
- additional features ..... main power loss detection, battery discharge detection, battery discharge protection

Current draw ..... 0,1A@12.5VDC (medium), 1.4Amax@12.5VDC (5W power transmission)

Operating temperature range ..... -5°C...+45°C

Relative humidity 5-95%

Housing dimensions [LxWxH] .....325x305x100 [mm]

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