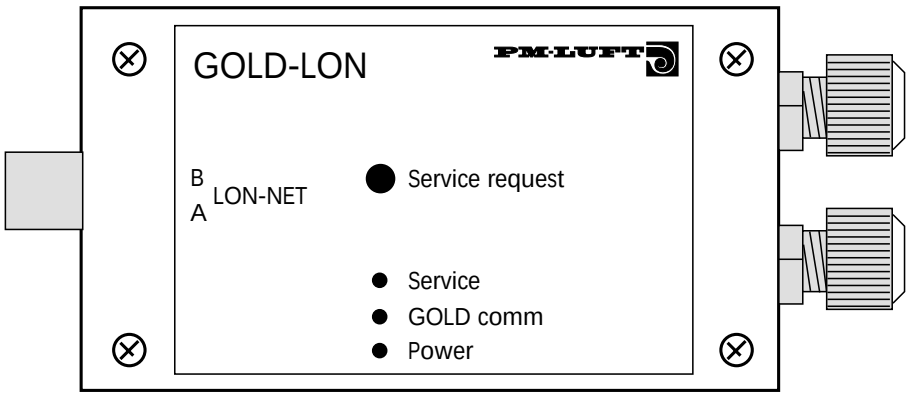
PM-LUFT

Functional Profile:
GOLD-LON Interface

Version 1.4

GOLD Sizes 1–5, Version 4 (PV 4.26)
GOLD Sizes 4–5, Version 3 (PV 4.03)



PM-LUFT

Contents

General 4
Optional Network Variables 5
LON Parameters, Overview 6

Mandatory Network Variables:

Output: Object Status 7
Input: Object Request 8

Optional Network Variables:

Output: GOLD-Clock 9
SA Temp. Set Point 9
EA Temp. Set Point 9
Total In-Operation Period 10
SF Max. Speed 10
SF High Speed 10
SF Low Speed 11
EF Max. Speed 11
EF High Speed 11
EF Low Speed 12
SF VAVset 12
EF VAVset 12
Service Period 13
Heat Exch. Level 13
SF Motor, Hz 13
EF Motor, Hz 14
Outdoor Air Temp. 14
SA Temp. 14
EA Temp. 15
Temp. Displacement 15
Anti-Frost. Mon. Temp. 15
SF Boosted Flow 16
EF Boosted Flow 16
Alarm, Tripped 17
SF Air Flow 17
EF Air Flow 18
SF Down Regulation 18
SF Filter Status 18
EF Filter Status 19

Specifications are subject to alteration without notice.

PM-LUFT

Contents (contd.)

Cooling Energy, 0–10 Vout 19
ReheatingSet 19
Boosted Cooling 20
FuncFlags 1 21
FuncFlags 2 22
Cooling, Min. Air Flow 23
Min. SA Temp. 23
Cooling, Neutral Zone 23
Cool Temp. 24
Cool Press., LP 24
Cool Press., HP 24
SAset Temp. 25
EAset Temp. 25
Cool, Cooling Capacity 25
Alarm no. 26

Input:

GOLD-Clock 27
SA Temp. Set point 27
EA Temp. Set Point 27
SF Max. Speed 28
SF High Speed 28
SF Low Speed 28
EF Max. Speed 28
EF High Speed 29
EF Low Speed 29
SF VAVset 29
EF VAVset 29
FuncFlags 1 30
Cooling, Min. Flow 31
Cooling, Neutral Zone 31
Min. SA Temp. 31

Configuration Properties:

AutoSendTimer 32
Wink Function 32
Data Transfer 32
Power Up State 33
Boundary & Error Considerations 33
Additional Considerations 33
LED/Keyed Functions 34

General

This document describes the profile at the GOLD-LON interface.

The LON interface is a separate communication unit that solely transfers data to and from the control system in the GOLD air handling unit.

This edition of the GOLD-LON interface should be used for monitoring GOLD 1-5 units across a LON bus. This means that it is not possible to override the physical inputs of the GOLD air handling unit, only monitor them across the LON bus.

The temperature and air flow set points can be adjusted across the LON network. The functions in the GOLD control system can be adjusted, enabled or disabled. The integrated switching clock can also be set to the current time.

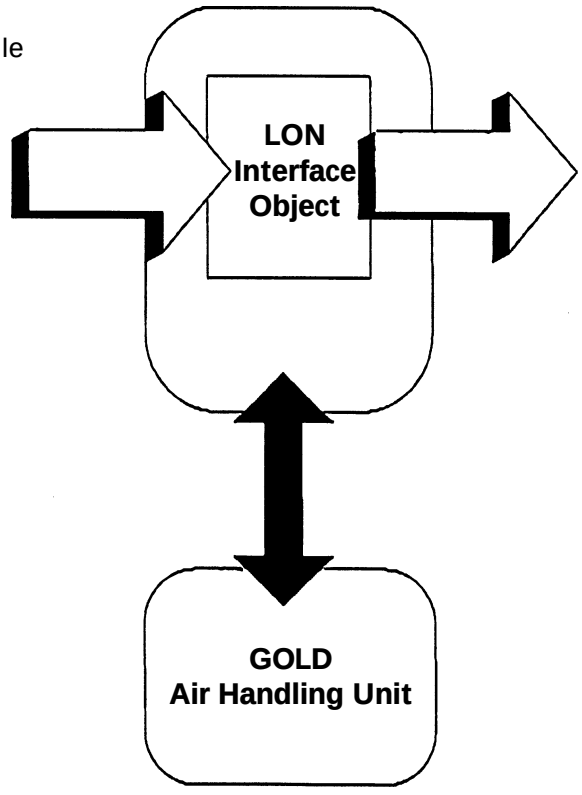
The interface is normally equipped with a Transceiver for **Twisted Pair Open Topology** (TP/FT-10). This is a ready-to-use module, developed and accepted by Echelon.

The LON software in the interface supports the self-documentation and Wink function and thus helps with installing nodes across a network manager.

The network variables are to SNVT Standard.

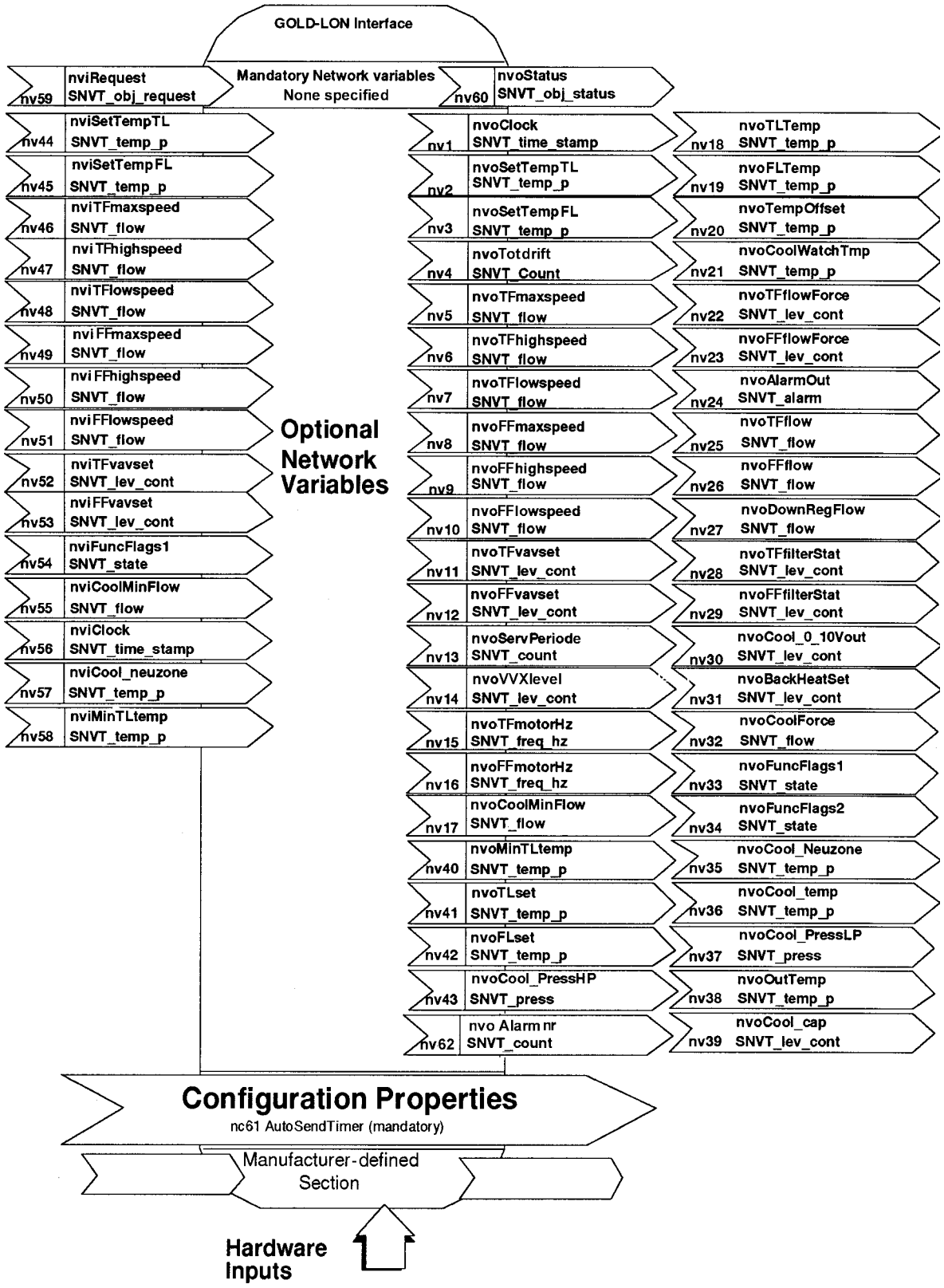
The LON Interface can be illustrated as follows:

Figure 1
Functional profile



Specifications are subject to alteration without notice.

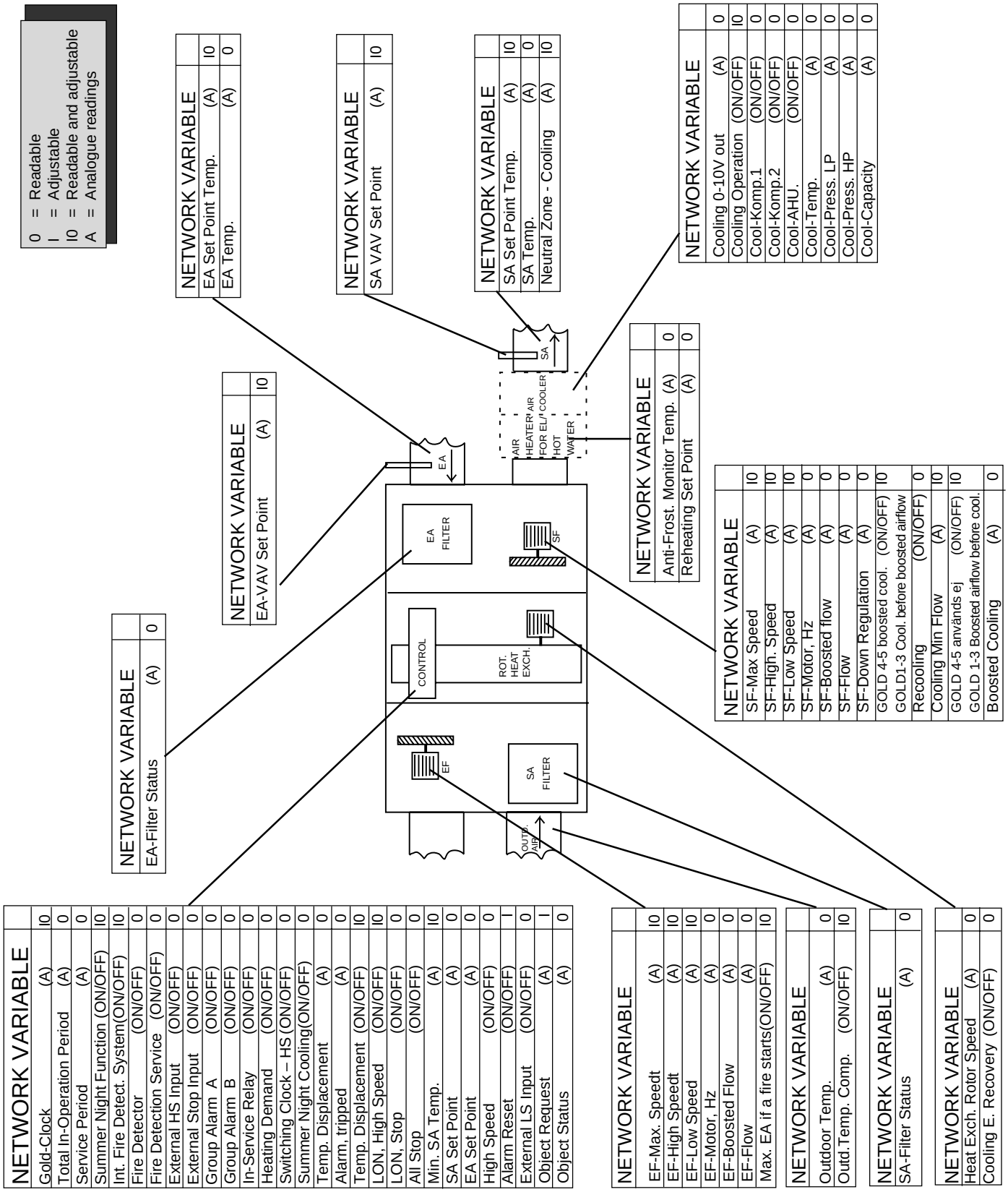
Optional Network Variables



PM-LUFT

LON-Parameters, Overview

GOLD-LON communication for the GOLD 4–5



Specifications are subject to alteration without notice.

PM-LUFT

Mandatory Network Variables (Output)

There are no mandatory network variables.

The necessary sensors must be connected to the GOLD Air handling unit before it can be operated; however this does not have any effect on the GOLD-LON Communication unit.

Object Status Output

Network output snvt_obj_status nvoStatus

This output variable contains the status for the LON node and will be transmitted when Object_request is queried. If Object_request is queried for an object ID other than 0 (the node itself), this will be interpreted as an inquiry as to whether the corresponding alarm numbers are active.

The following functions are supported:

– Object ID	Object number (alarm number) that has been queried via Object_request.
– Invalid_id	Always returned as object 0 whenever Object ID outside the permissible range is queried.
– Invalid_request	The flag will be displayed, if any unsupported function is requested.
– Unable_to_measure	No communication with the GOLD Air handling unit.
– Comm_failure	No communication with the GOLD Air handling unit.
– Alarm input	There is a tripped alarm in the GOLD unit or communication with the GOLD unit has been interrupted and this causes the LON node to indicate an alarm.
– Report_mask	The flag will be displayed, together with the flags supported by Reportmask_request (Object_request).

Valid Range: Object ID = 0 – 65535
All others = 0 – 1.
Initializing figure on start-up, all = 0.

When Transmitted: This variable is transmitted every other second.

Default Service Type: Acknowledged.

Mandatory Network Variables (Input)

Object Request Input

Network input snvt_obj_request nviRequest

This variable can be used for requesting the status of the LON node. Object_id can be used to indicate whether the user is interested in viewing the status of the LON node (object =) or wants to find out the status of an alarm number (1–48).

The following Requests are supported:

0–RQ_NORMAL:	The normal condition of the node. The node is always in this condition, however a request with this content will not cause Invalid_request to appear on the screen
2–RQ_UPDATE_STATUS:	Updates Object Status.
4–RQ_UPDATE_ALARM:	AlarmOut is promptly updated for the current object_id number received via object_request. Three 3 seconds will elapse before nvoAlarmOut is updated due to a shift in the alarm situation. This allows the user 3 seconds to call nvoAlarmOut.
5–RQ_REPORT_MASK:	Returns Object Status displayed with all flags supported by the node. Report_mask flag is also displayed.
7–RQ_ENABLE:	The node is always enabled, but the flag can be used without causing Invalid_request to appear on the screen.
9–RQ_CLEAR_STATUS:	Clears all flags in the Object Status.

All other types of Requests cause Invalid_request to appear in the Object Status.

Default Service Type:	Acknowledged.
Valid Range:	Object ID = 0-65535. The GOLD air handling unit has 48 alarms. More alarms may eventually be added but this number is not expected to exceed 60. Request = 0 – 10.
Default Value:	0 for both.

Specifications are subject to alteration without notice.

Optional Network Variables (Output)

GOLD-Clock Output

Network output snvt_time_stamp nvoClock

This output variable contains particulars about the current time (year, month, day, hour, min, sec) in the GOLD Control System.

Valid Range: Standard for 24-hour clock.

When Transmitted: This variable is transmitted every other second.

Default Service Type: Acknowledged.

SA Temp. Set Point Output

Network Output snvt_temp_p nvoSetTempTL

This output variable contains the preset supply air temperature set point of the control system.

Valid Range: 0 – 40 °C

When Transmitted: This variable is transmitted whenever it has been altered or after the auto transmisson period has expired.

Default Service Type: Acknowledged.

EA Temp. Set Point Output

Network Output snvt_temp_p nvoSetTempFL

This output variable contains the preset exhaust air temperature set point of the control system.

Valid Range: 0 – 40 °C

When Transmitted: This variable is transmitted whenever it has been altered or after the auto transmission period has expired.

Default Service Type: Acknowledged.

Total In-Operation Period Output

Network Output snvt_count nvoTotdrift

This output variable contains the total in-operation period (in days) of the air handling unit.

Valid Range: 0 – 65535 days

When Transmitted: This variable is transmitted whenever it has been altered or after the auto transmission period has expired.

Default Service Type: Acknowledged.

SF Max.-Speed Output

Network output snvt_flow nvoTFmaxspeed

This output variable contains the preset air flow set point of the supply air fan running at max. speed.

Valid Range: 0 – 3600 liter/sec.

When Transmitted: This variable is transmitted whenever it has been altered or after the auto transmission period has expired.

Default Service Type: Acknowledged.

SF High-Speed Output

Network output snvt_flow nvoTFhighspeed

This output variable contains the preset air flow set point of the supply air fan running at high speed.

Valid Range: 0 – 3600 liter/sec.

When Transmitted: This variable is transmitted whenever it has been altered or after the auto transmission period has expired.

Default Service Type: Acknowledged.

Specifications are subject to alteration without notice.

SF Low-Speed Output

Network output snvt_flow nvoTFlowspeed

This output variable contains the preset air flow set point of the supply air fan running at low speed.

Valid Range: 0 – 3600 liter/sec.

When Transmitted: This variable is transmitted whenever it has been altered or after the auto transmission period has expired.

Default Service Type: Acknowledged.

EF Max. Speed Output

Network output snvt_flow nvoFFmaxspeed

This output variable contains the preset air flow set point of the exhaust air fan running at max. speed.

Valid Range: 0 – 3600 liter/sec.

When Transmitted: This variable is transmitted whenever it has been altered or after the auto transmission period has expired.

Default Service Type: Acknowledged.

EF High-Speed Output

Network output snvt_flow nvoFFhighspeed

This output variable contains the preset air flow set point of the exhaust air fan running at high speed.

Valid Range: 0 – 3600 liter/sec.

When Transmitted: This variable is transmitted whenever it has been altered or after the auto transmission period has expired.

Default Service Type: Acknowledged.

EF Low-Speed Output

Network output snvt_flow nvoFFlowspeed

This output variable contains the preset air flow set point of the exhaust air fan running at low speed.

Valid Range: 0 – 3600 liter/sec.

When Transmitted: This variable is transmitted whenever it has been altered or after the auto transmission period has expired.

Default Service Type: Acknowledged.

SF VAVset Output

Network output snvt_lev_cont nvoTFvavset

This output variable contains the preset set point for the pressure in the supply air ducting, expressed as a percentage of 10 V at the external SA pressure input.

Valid Range: 0 – 100%

When Transmitted: This variable is transmitted whenever it has been altered or after the auto transmission period has expired.

Default Service Type: Acknowledged.

EF VAVset Output

Network output snvt_lev_cont nvoFFvavset

This output variable contains the preset set point for the pressure in the exhaust air ducting, expressed as a percentage of 10 V at the external EA pressure input.

Valid Range: 0 – 100%

When Transmitted: This variable is transmitted whenever it has been altered or after the auto transmission period has expired.

Default Service Type: Acknowledged.

Specifications are subject to alteration without notice.

Service Period Output

Network Output snvt_count nvoServPeriode

This output variable contains the period remaining before the service alarm is tripped. Displayed in days. The alarm is tripped at 0.

Valid Range: 0 – 65535 days

When Transmitted: This variable is transmitted whenever it has been altered or after the auto transmission period has expired.

Default Service Type: Acknowledged.

Heat Exch. Level Output

Network output snvt_lev_cont nvoVVXlevel

This output variable contains the current speed setting for the heat exchanger motor.

Valid Range: 0 – 100 %

When Transmitted: This variable is transmitted whenever it has been altered or after the auto transmission period has expired.

Default Service Type: Acknowledged.

SF Motor, Hz Output

Network output snvt_freq_hz nvoTFmotorHz

This output variable contains the current frequency being modulated from the SF frequency converter to the supply air fan motor.

Valid Range: 0 – 64 Hz

When Transmitted: This variable is transmitted whenever it has been altered or after the auto transmission period has expired.

Default Service Type: Acknowledged.

EF Motor, Hz Output

Network output snvt_freq_hz nvoFFmotorHz

This output variable contains the current frequency being modulated from the EF frequency converter to the exhaust air fan motor.

Valid Range: 0 – 64 Hz

When Transmitted: This variable is transmitted whenever it has been altered or after the auto transmission period has expired.

Default Service Type: Acknowledged.

Outdoor Air Temp. Output

Network output snvt_temp_p nvoOutTemp

This output variable contains the current outdoor air temperature measured by the outdoor air sensor of the GOLD Air handling unit.

Valid Range: -20 ... +75°C

When Transmitted: This variable is transmitted whenever it has been altered or after the auto transmission period has expired.

Default Service Type: Acknowledged.

SA Temp. Output

Network output snvt_temp_p nvoTLtemp

This output variable contains the current temperature measured by the supply air sensor of the GOLD Air handling unit.

Valid Range: -20 ... +75°C

When Transmitted: This variable is transmitted whenever it has been altered or after the auto transmission period has expired.

Default Service Type: Acknowledged.

Specifications are subject to alteration without notice.

EA Temp. Output

Network output snvt_temp_p nvoFLtemp

This output variable contains the current temperature measured by the exhaust air sensor of the GOLD Air handling unit.

Valid Range: -20 ... +75°C

When Transmitted: This variable is transmitted whenever it has been altered or after the auto transmission period has expired.

Default Service Type: Acknowledged.

Temp. Displacement Output

Network output snvt_temp_p nvoTempOffset

This output variable contains the current temperature at which the set point is to be displaced from the preprogrammed value by means of an external 0 – 10 V input signal for set value displacement. The function must be enabled if the value is to have any effect. 0 V = -5 °C, 10 V = 5 °C.

Valid Range: -5 ... +5°C

When Transmitted: This variable is transmitted whenever it has been altered or after the auto transmission period has expired.

Default Service Type: Acknowledged.

Anti-Frost. Monitor Temp. Output

Network output snvt_temp_p nvoCoolWatchTmp

This output variable contains the current temperature measured by the anti-frosting protection sensor, if fitted. If no sensor is connected, a reading of approx. 72 °C will be displayed.

Valid Range: -20 ... +75°C

When Transmitted: This variable is transmitted whenever it has been altered or after the auto transmission period has expired.

Default Service Type: Acknowledged.

SF Boosted Flow Output

Network output snvt_lev_cont nvoTFflowForce

This output variable contains the current value at the input for boosting the air flow from the supply air fan. The value is presented as a percentage (0 – 100% = 0 – 10 V).

Valid Range: 0 – 100%

When Transmitted: This variable is transmitted whenever it has been altered or after the auto transmission period has expired.

Default Service Type: Acknowledged.

EF Boosted Flow Output

Network output snvt_lev_cont nvoFFflowForce

This output variable contains the current value at the input for boosting the air flow from the exhaust air fan. The value is presented as a precentage (0 – 100% = 0 – 10 V).

Valid Range: 0 – 100%

When Transmitted: This variable is transmitted whenever it has been altered or after the auto transmission period has expired.

Default Service Type: Acknowledged.

Specifications are subject to alteration without notice.

PM-LUFT

Alarm, tripped Output

Network output snvt_alarm nvoAlarmOut

This output variable contains information about an alarm that is presently tripped or an Object_request inquiry about a specific alarm number.

The following particulars are available:

Location	:	Always contains the text: "GOLD".
Object ID	:	Contains the relevant internal alarm code. The codes used are the same as the alarm numbers specified in the "GOLD Operation and Maintenance Instructions".
Alarm type	:	Contains either no alarm or an unspecified alarm.
Priority level	:	Contains the alarm priority. (No communication = 3, A = 2, B = 1 and none = 0.)
Index to SNVT	:	Not used. Always set at 0.
Value	:	Not used. Always set at 0.
Year, month, day	:	Date when alarm tripped.*
Hour, min, sec, msec	:	Time of tripped alarm.*
Alarm limit	:	Not used. Always set at 0.

Every time that communication with the GOLD Air handling unit is interrupted for more than 5 seconds, this AlarmOut with Alarm type =3 (Total/Service interval Alarm 1) will be transmitted.
The time of tripped alarm indicates the time when the last acknowledged communication took place. 0000 is displayed if there has not been any ackowledged communication or if the power supply to the LON interface has been cut off. A check for faulty communication can also be carried out. To do this, transmit an object_request for object_id and then read the object_status.

Valid Range: Alarm type = Alarm Nos. 0 - approx. 60

Time of tripped alarm = standard for 24-hour clock

Alarm priority = No communication, A, B or none (3, 2, 1 or 0)

When Transmitted: This variable is transmitted whenever an alarm has tripped on the GOLD Air handling unit or after the auto transmission period has expired. If no communication with the GOLD Air handling unit takes place, this parameter will be transmitted once every 5th second.

Default Service Type: Acknowledged.

* If an inquiry about a non-active alarm is submitted, the time for the most recent authorised communication with the GOLD unit will be shown.

SF Flow Output

Network output snvt_flow nvoTFflow

This output variable contains the current air flow from the supply air fan (in the ducting).

Valid Range: 0 – 3600 liter/sec.

When Transmitted: This variable is transmitted whenever it has been altered or after the auto transmission period has expired.

Default Service Type: Acknowledged.

EF Flow Output

Network output snvt_flow nvoFFflow

This output variable contains the current flow from the exhaust air fan (in the ducting).

Valid Range: 0 – 3600 liter/sec.

When Transmitted: This variable is transmitted whenever it has been altered or after the auto transmission period has expired.

Default Service Type: Acknowledged.

SF Down Regulation Output

Network output snvt_flow nvoDownRegFlow

This output variable contains the value for how much the supply air flow has been down regulated in relation to the set point. Down regulation is a sequence in the regulation of the supply air temperature.

Valid Range: 0 – 3600 liter/sec.

When Transmitted: This variable is transmitted whenever it has been altered or after the auto transmission period has expired.

Default Service Type: Acknowledged.

SF Filter Status Output

Network output snvt_lev_cont nvoTFfilterStat

This output variable contains the current filter status of the supply air filter expressed as a percentage.
0 = Clean filter (duct calibration), factory-preset alarm limit: 10%.

Valid Range: 0 – 100%

When Transmitted: This variable is transmitted whenever it has been altered or after the auto transmission period has expired.

Default Service Type: Acknowledged.

Specifications are subject to alteration without notice.

EF Filter Status Output

Network output snvt_lev_cont nvoFFfilterStat

This output variable contains the current filter status of the exhaust air filter expressed as a percentage.
0 = Clean filter (duct calibration), factory-preset alarm limit: 10%.

Valid Range: 0 – 100%

When Transmitted: This variable is transmitted whenever it has been altered or after the auto transmission period has expired.

Default Service Type: Acknowledged.

Cooling Energy 0 – 10 V out Output

Network output snvt_lev_cont nvoCool_0_10Vout

This output variable contains the current output signal 0 = 10 V being modulated to the cooling machine, if connected.

Valid Range: 0 – 100%

When Transmitted: This variable is transmitted whenever it has been altered or after the auto transmission period has expired.

Default Service Type: Acknowledged.

ReheatingSet Output

Network output snvt_lev_cont nvoBackHeatSet

This output variable contains the current set point of the reheating function (heating coil) expressed as a percentage.

Valid Range: 0 – 100%

When Transmitted: This variable is transmitted whenever it has been altered or after the auto transmission period has expired.

Default Service Type: Acknowledged.

Boosted Cooling Output

Network output snvt_lev_cont nvoCoolForce

This output variable contains the current value for how much the flow has been raised to increase the cooling output to max. The value is expressed as a percentage of the flow between the preset high-speed flow rate and the preset max. flow rate.

Valid Range: 0 – 100%.

When Transmitted: This variable is transmitted whenever it has been altered or after the auto transmission period has expired.

Default Service Type: Acknowledged.

Specifications are subject to alteration without notice.

FuncFlags 1 Output

Network output snvt_state nvoFuncFlags1

This output variable contains the following flags in groups 0, 1, 2, 3 4, 5, 6, 7 8, 9, 10, 11 12, 13, 14, 15:

0	Auxiliary	Always set at 0.
1	Auxiliary	Always set at 0.
2	Temp. Set Point Displ.:	Indicates whether Set Point Displacement is activated.
3	Outdoor Temp. Comp.:	Indicates whether Outdoor Temp. Compensation is activated.
4	Auxiliary	Always set at 0.
5	LON High-Speed Flag	Indicates whether the air handling unit has been ordered to run at high speed across the LON.
6	Summer Night Function:	Indicates whether the Summer Night Cooling function is activated.
7	LON Stop	Indicates whether the air handling unit has been stopped across the LON. See also FuncFlags2 Output bit 8.
8	Cool_comp 2:	Indicates whether Cooling unit compressor 2 is ON.
9	Cool_comp 1:	Indicates whether Cooling unit compresser 1 is ON.
10	Max EA if a fire starts:	Indicates whether the exhaust air fan is to run at max. speed in the event of a tripped fire alarm.
11	Boosted Cooling (GOLD 4–5): Cool/force (GOLD 1–5, V4):	Indicates whether the boosted cooling function is activated (GOLD 4–5). Indicates whether cooling is activated prior to boosted cooling (GOLD 1–5, V4).
12	Cooling Operation:	Indicates whether the cooling relay is enabled.
13	Cooling Relay	Indicates whether the cooling relay is activated.
14	Reserved (GOLD 4–5) Force/cool (GOLD 1–5, V4)	Always set at 0 (GOLD 4–5) Indicates whether boosted cooling is used prior to cooling (GOLD 1–5, V4).
15	Internal Fire Monitor:	Indicates whether the Internal Fire Monitor function is activated.

Valid Range: 0 – 1 (OFF/ON)

When Transmitted: This variable is transmitted whenever it has been altered or after the auto transmission period has expired.

Default Service Type: Acknowledged.

FuncFlags 2 Output

Network output snvt_state nvoFuncFlags2

This output variable contains the following flags in groups 0, 1, 2, 3 4, 5, 6, 7 8, 9, 10, 11 12, 13, 14, 15:

0	In-Service Relay:	Indicates the status of the In-service indicating relay.
1	Group Alarm B:	Indicates whether any Group B alarm has tripped. If a Group B alarm trips, the air handling unit will continue to operate.
2	Group Alarm A:	Indicates whether and Group A alarm has tripped. If a Group A alarm trips, the air handling unit will immediately stop.
3	External Stop Input:	Indicates the status at the External Stop input.
4	External HS Input:	Indicates the status at the External High-Speed input.
5	Service Fire Alarm:	Indicates the status at the Service Fire Alarm input.
6	External Fire Alarm:	Indicates the status at the External Fire Alarm input.
7	External LS Input:	Indicates the status at the External Low-Speed input.
8	All stop:	Indicates whether any conditions call for a stop.
9	Auxiliary:	Always set at 0.
10	High-Speed Operation:	Indicates whether the fans in the air handling unit are running at high speed.
11	Cooling Energy Recovery:	Indicates the status at the cooling energy recovery function.
12	High-Speed Contactor:	Indicates whether the swithing clock calls for high-speed operation.
13	Heating Demand:	Indicates whether any demand for heating has arisen between 12.00 – 23.00.
14	Summer night cooling:	Indicates whether the summer night cooling function is enabled.
15	Post-cooling:	Indicates whether the post-cooling function of the electric heater is enabled.

Valid Range: 0 – 1 (OFF/ON)

When Transmitted: This variable is transmitted whenever it has been altered or after the auto transmission period has expired.

Default Service Type: Acknowledged.

Specifications are subject to alteration without notice.

Cooling, Min. Flow Output

Network output snvt_flow nvoCoolMinFlow

This output variable contains the preset value that the air flow must exceed before the cooling function can start.

Valid Range: 0 – 3600 liter/sec.

When Transmitted: This variable is transmitted whenever it has been altered or after the auto transmission period has expired.

Default Service Type: Acknowledged.

Min. SA Temp. Output

Network output snvt_temp_p nvoMinTLtemp

This output variable contains the preset min. permissible supply air temperature set point of the control system in conjunction with exhaust air regulation.

Valid Range: 0 – 18 °C.

When Transmitted: This variable is transmitted whenever it has been altered or after the auto transmission period has expired.

Default Service Type: Acknowledged.

Cooling, Neutral Zone Output

Network Output snvt_temp_p nvoCool_NeuZone

This output variable contains the preset value for the differential between the heating and cooling set points.

Valid Range: 0 – 5 °C

When Transmitted: This variable is transmitted whenever it has been altered or after the auto transmission period has expired.

Default Service Type: Acknowledged.

Cool Temp. Output

Network output snvt_temp_p nvoCool_Temp

This output variable indicates the water temperature in the GOLD-Cooler, if connected.

Valid Range: -20 ... +75 °C

When Transmitted: This variable is transmitted whenever it has been altered or after the auto transmission period has expired.

Default Service Type: Acknowledged.

Cool Press., LP Output

Network output snvt_press nvoCool_pressLP

This output variable indicates the pressure sensed by the low pressure sensor of the GOLD-Cooler, if connected.

Valid Range: 0 – 40 Bar

When Transmitted: This variable is transmitted whenever it has been altered or after the auto transmission period has expired.

Default Service Type: Acknowledged.

Cool Press., HP Output

Network output snvt_press nvoCool_PressHP

This output variable indicates the pressure sensed by the high pressure sensor of the GOLD-Cooler, if connected.

Valid Range: 0 – 40 Bar

When Transmitted: This variable is transmitted whenever it has been altered or after the auto transmission period has expired.

Default Service Type: Acknowledged.

Specifications are subject to alteration without notice.

SAset Temp. Output

Network output snvt_temp_p nvoTLset

This output variable indicates the current SA set point of the temperature controller including any compensation factors.

Valid Range: 0 – 40 °C

When Transmitted: This variable is transmitted whenever it has been altered or after the auto transmission period has expired.

Default Service Type: Acknowledged.

EAset Temp Output

Network output snvt_temp_p nvoFLset

This output variable indicates the current EA set point of the temperature controller including any compensation factors.

Valid Range: 0 – 40 °C

When Transmitted: This variable is transmitted whenever it has been altered or after the auto transmission period has expired.

Default Service Type: Acknowledged.

Cool, Cooling Capacity Output

Network output snvt_lev_cont nvoCool_Cap

This output variable indicates the current cooling energy demand in the control system.
Equivalent to 0 – 10 V modulation to the cooling output and 0 – 100% to the GOLD-Cooler, if connected.

Valid Range: 0 – 100 %

When Transmitted: This variable is transmitted whenever it has been altered or after the auto transmission period has expired.

Default Service Type: Acknowledged.

Alarmno. - Output

Network output snvt_count nvoAlarmnr

This output variable indicates the current alarm situation in the GOLD unit.

0 = no alarm

1–48 indicates the current tripped alarm.

Valid Range: 0-65535.

When Transmitted: This variable is transmitted whenever it has been altered or after an expired auto-transmission period.

Default Service Type: Acknowledged.

Specifications are subject to alteration without notice.

Optional Input Network Variables

Gold-Clock Input

Network input snvt_time_stamp nviClock

This input variable can be used for updating the current time (year,month,day,hour,min,sec) in the GOLD control system.

Valid Range: Standard for 24-hour clock.
If the standard is not followed, the values will be ignored.

Default Value: Integrated clock with battery back-up maintains the correct time.

SA Temp. Set Point Input

Network input snvt_temp_p nviSetTempTL

This input variable can be used for adjusting the desired supply air temperature set point.

Valid Range: 10 – 40 °C

Default Value: Factory setting = 20 °C

EA Temp. Set Point Input

Network input snvt_temp_p nviSetTempFL

This input variable can be used for adjusting the desired the desired exhaust air temperature set point.

Valid Range: 10 – 40 °C

DefaultValue: Factory setting = 20 °C

SF Max. Speed Input

Network input snvt_flow nviTFmaxspeed

This input variable can be used for adjusting the desired air flow set point of the supply air fan running at max. speed.

Valid Range: 0 – 3600 liter/sec.

Default Value: Factory setting = 1389 l/s

SF High-Speed Input

Network input snvt_flow nviTFhighspeed

This input variable can be used for adjusting the desired air flow set point of the supply air fan running at high speed.

Valid Range: 0 – 3600 liter/sec.

Default Value: Factory setting = 1389 l/s

SF Low-Speed Input

Network input snvt_flow nviTFlowspeed

This input variable can be used for adjusting the desired air flow set point of the supply air fan running at low speed.

Valid Range: 0 – 3600 liter/sec.

Default Value: Factory setting = 556 l/s

EF Max. Speed Input

Network input snvt_flow nviFFmaxspeed

This input variable can be used for adjusting the desired air flow set point of the exhaust air fan running at max. speed.

Valid Range: 0 – 3600 liter/sec.

Default Value: Factory setting = 1389 l/s

Specifications are subject to alteration without notice.

EF High-Speed Input

Network input snvt_flow nviFFhighspeed

This input variable can be used for adjusting the desired air flow set point of the exhaust air fan running at high speed.

Valid Range: 0 – 3600 liter/sec.

Default Value: Factory setting = 1389 l/s

EF Low-Speed Input

Network input snvt_flow nviFFlowspeed

This input variable can be used for adjusting the desired air flow set point of the exhaust air fan running at low speed.

Valid Range: 0 – 3600 liter/sec.

Default Value: Factory setting = 556 l/s

SF VAVset Input

Network input snvt_lev_cont nviTFvavset

This input variable can be used for adjusting the desired setpoint for the duct pressure downstream of the supply air fan in conjunction with VAV feedback control. The value is expressed as a percentage of 0 – 10 V at the VAV/Forcer input.

Valid Range: 0 – 100 %

Default Value: Factory setting = 50 %

EF VAVset Input

Network input snvt_lev_cont nviFFvavset

This input variable can be used for adjusting the desired set point for the duct pressure downstream of the exhaust air fan in conjunction with VAV feedback control. The value is expressed as a percentage of 0 – 10 V at the VAV/Forcer input.

Valid Range: 0 – 100%

Default Value: Factory setting = 50 %

PM-LUFT

FuncFlags1 Input

Network input snvt_state nviFuncFlags1

This input variable contains the following flags in flag groups 0, 1, 2, 3 4, 5, 6, 7 8, 9, 10, 11 12, 13, 14, 15:

0	Reserved	Can be ignored.
1	Reserved	Can be ignored.
2	Set point displacement:	Can be used for activating Set Point Displacement.
3	Outdoor Temp. Comp:	Can be used for activating Outdoor Temperature Compensation.
4	Alarm Reset:	Can be used for resetting possible alarms.
5	LON High Speed Flag:	If the fans in the air handling unit are running at low speed, they can be forced to operate at high speed by utilising this flag across the LON.
6	Summer Night Cooling:	Can be used for activating the Summer Night Cooling function.
7	LON stop	Forces, across the LON, the air handling unit to stop.
8	Reserved	Can be ignored.
9	Reserved	Can be ignored.
10	Max. EA if a fire starts:	Can be used for activating the function calling for the exhaust air fan to run at max. speed in the event of a fire.
11	Boosted Cooling (GOLD 4–5): Cool/force (GOLD 1–5, V4):	Can be used for activating the Boosted Cooling function (GOLD 4–5). Can be used for activating the cooling function prior to boosted cooling (GOLD, V4).
12	Cooling Operation:	Can be used for activating the cooling function.
13	Reserved	Can be ignored.
14	Reserved (GOLD 4–5) Force/cool (GOLD 1–5, V4):	Can be ignored (GOLD 4–5). Can be used for activating the Boosted Cooling functionen prior to cooling (GOLD 1–5, V4).
15	Internal Fire Alarm:	Can be used for activating the Internal Fire Alarm function.

Default Service Type: Acknowledged.

Valid Range: 0 - 1 (OFF–ON)

Default Value: Factory setting = All are set at 0 = OFF

Specifications are subject to alteration without notice.

Cooling, Min. Flow Input

Network input snvt_flow nviCoolMinFlow

This input variable can be used for adjusting the desired SA min. flow, below which the cooling function cannot be be activated.

Valid Range: 0 – 3600 liter/sec.

Default Value: 556 liter/sec.

Cooling, Neutral Zone Input

Network input snvt_temp_p nviCool_NeuZone

This input variable can be used for adjusting the desired differential between the heating and cooling set points.

Valid Range: 0 – 5 °C

Default Value: 2 °C

Min. SA Temp. Input

Network input snvt_temp_p nvoMinTLtemp

This input variable can be used for adjusting the desired min. permissible supply air temperature in conjunction with exhaust air regulation.

Valid Range: 0 – 18 °C (can be further limited at the air handling unit, if required).

Default Value: 15 °C.

Configuration Properties

AutoSendTimer (optional)

Network input config snvt_time_sec nciAutoSendTime

This variable defines the time it takes for all the parameters to be automatically updated on the network.

This ensures that the values received from this node will always be correct regardless of whether or not the values are constant. Constant values are not updated whenever a change occurs.

As an alternative, the operator himself may decide to demand the desired values from the node. If he does so, this function will not be needed.
Set AutoSendTimer at 0. No automatic transmissions will then occur.

Valid Range: This value must be in the 10..6553.4 sec. range.
0 = The Autosend function is disabled.
(N.B: The figure will be rounded off to the nearest lower integer.)

Default Value: 0

Wink Function

This command can be used for identifying the GOLD Air handling unit.

The green LEDs flash alternately for 15 seconds while the Wink command is being transmitted to the LON interface.

This input variable can be used for checking whether the LON network is intact up to the LON interface and for identifying a specific air handling unit if several units are connected to the same network.

Data Transfer

The configuration does not include any form of Data transfer.

Specifications are subject to alteration without notice.

PM-LUFT

Power Up State

The input variables will be added to the "default" values, or the values saved in the EEProm, if values other than the factory-preset values have been selected.

The output values can be set as follows:

nvoClock	= 0000-00-00-00-00-00 (year-month-day-hour-min-sec)
nvoOutTemp	= 0x7FFF=327.67°C
nvoSATemp	= 0x7FFF=327.67°C
nvoEATemp	= 0x7FFF=327.67°C
nvoTempOffset	= 0x7FFF=327.67°C
nvoCoolWatchTmp	= 0x7FFF=327.67°C
nvoAlarmOut	= no alarm
nvoBitmap1	= All flags are 0 = OFF
nvoBitmap2	= All flags are 0 = OFF

After approx. 10 seconds of communication with the GOLD Air handling unit, all the input values will be upgraded with the values received from the EEProm in the GOLD.

The input parameters will thus always be upgraded after any power failure and current readings will therefore always be displayed as long as the communication is OK.

Boundary and Error Conditions

None have been specified.

Additional Considerations

Polling:

If "polling" has been programmed on the Output or Input Variables, keep in mind that this may delay responses by as much as 170 ms.

This is because data 41 Byte blocks is communicated between the LON interface and the GOLD Air handling unit in. While communication is in progress, the LON node will not be able to process any incoming DataRequest. The call will be stored in a buffer and processed when the GOLD-LON has finished communicating with the GOLD.

Altering a variable:

If a GOLD variable is to be altered across the LON, the node will first fetch a 40 Byte data block containing the parameter to be altered. The relevant parameter will then be altered and the data block will be transmitted back to the GOLD Air handling unit. The node will therefore be occupied for approx. 2 x 170 ms, before it can be called and respond after a normal delay.

Since "polling" is not a normal way of fetching data from the LON interface, it is assumed that response times present no problem.

LED/Keyed Functions

Start-up:

On starting up, both green LEDs will flash for about 5 seconds. This indicates that program execution has started.

Normal operation:

The “Power“ LED will be constantly lit. (Power on).
The “GOLD comm“ LED will flash whenever ackowledged communication with the GOLD takes place.

On activating the Auto-send function, the “Power“ LED will rapidly flash every time all the LON parameters are being transmitted.

Service:

The “Service“ LED will flash if the node has not been configured. Configuration is normally carried out by a LON manager.
While the LON manager is configuring the node, the operator will be requested to depress “servicepin“ to identify the node. (Service Request beneath the sealing cap.) The node has integrated self-identification and self-description of the parameters.

Specifications are subject to alteration without notice.