



Corrigo E

Lon-interface variable list

Covers all versions of Corrigo E...-LON from revision 1.2-1-0



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THE CHALLENGER IN BUILDING AUTOMATION

About the manual

This document covers all versions of the LON-profiles. Certain variables are only available for later versions of the Corrigo software. These variables are marked with a number. Explanations are provided after each section. All variables are backward-compatible. New in this version: the profile for ventilation has been updated to version 3.1. See page 5.

Corrigo E Ventilation

Application files, CorrigoEVentilation.apb and CorrigoEVentilation.xif

The files CorrigoEVentilation.APB and CorrigoEVentilation.XIF are included in the E tool distribution.

E tool can be downloaded free of charge from Regin's website: www.regin.se.

After downloading and installing E tool, the files can be found in the folder:

Exo\Slib\Corrigo\VentilationProgram\Lon.

Use the file CorrigoEVentilationX_Y that corresponds to the revision in the Corrigo. The files CorrigoEVentilationX_Y-S should be used when the unit is marked –S.

Table of Network Variables, Outputs (NVO)

Name	SNVT_type	Description
nvoOutdoorTemp	SNVT_temp_p	Outdoor temperature
nvoSuppAirTemp	SNVT_temp_p	Supply air temperature
nvoExstAirTemp	SNVT_temp_p	Extract air temperature
nvoRoomTemp	SNVT_temp_p	Room temperature
nvoExtraSensor	SNVT_temp_p	Temperature, extra sensor
nvoSAFPressure	SNVT_press_p	Pressure, Supply air fan
nvoEAFPPressure	SNVT_press_p	Pressure, Extract air fan
nvoSAFAirflow	SNVT_flow	Flow, Supply air fan (l/s)
nvoEAFAirflow	SNVT_flow	Flow, Extract air fan (l/s)
nvoDeicingTemp	SNVT_temp_p	Temp. De-icing sensor heat exchanger
nvoFrostProtTemp	SNVT_temp_p	Temp. Frost protection sensor
nvoCO2	SNVT_ppm	CO ₂
nvoRoomHumidity	SNVT_lev_precent	Room humidity
nvoRunIndication	SNVT_state	Bit0 – Run indication, Supply air fan Bit1 – Run indication, Extract air fan Bit2 – Run indication, Pump, heating Bit3 – De-icing heat exchanger active
nvoAo1	SNVT_volt_f	Output signal Ao1
nvoAo2	SNVT_volt_f	Output signal Ao2
nvoAo3	SNVT_volt_f	Output signal Ao3
nvoAo4	SNVT_volt_f	Output signal Ao4
nvoAo5	SNVT_volt_f	Output signal Ao5
nvoAo1Expl	SNVT_volt_f	Output signal Ao1 Expansion unit I (6)
nvoAo2Expl	SNVT_volt_f	Output signal Ao2 Expansion unit I (6)
nvoAo3Expl	SNVT_volt_f	Output signal Ao3 Expansion unit I (6)
nvoAo4Expl	SNVT_volt_f	Output signal Ao4 Expansion unit I (6)
nvoAo5Expl	SNVT_volt_f	Output signal Ao5 Expansion unit I (6)
nvoDo	SNVT_state	Bit0 – Output signal Do1

Name	SNVT_type	Description
		Bit1 – Output signal Do2 Bit2 – Output signal Do3 Bit3 – Output signal Do4 Bit4 – Output signal Do5 Bit5 – Output signal Do6 Bit6 – Output signal Do7 Bit7 – Output signal Do1 Expansion unit I (6) Bit8 – Output signal Do2 Expansion unit I (6) Bit9 – Output signal Do3 Expansion unit I (6) Bit10 – Output signal Do4 Expansion unit I (6) Bit11 – Output signal Do5 Expansion unit I (6) Bit12 – Output signal Do6 Expansion unit I (6) Bit13 – Output signal Do7 Expansion unit I (6)
nvoVVXExchEffi	SNVT_lev_percent	Heat exchanger efficiency monitoring
nvoSetpoint	SNVT_temp_p	Setpoint, Supply air
nvoCascadeSetp	SNVT_temp_p	Setpoint cascade control. Depending on configuration (Room temp if room control is configured, Extract air temp if extract air control is configured)
nvoMaxLimit	SNVT_temp_p	Max limit Supply temperature
nvoMinLimit	SNVT_temp_p	Min limit Supply temperature
nvoAlarm	SNVT_state_64	Bit0 – Run error Supply air fan Bit1 – Run error Extract air fan Bit2 – Run error PI-Heating Bit3 – Run error PI-Cooling Bit4 – Run error PI-Exchanger Bit5 – Filter guard Bit6 – Flow guard Bit7 – External frost guard Bit8 – De-icing heat exchanger Bit9 – Fire alarm Bit10 – External stop Bit11 – External alarm Bit12 – Control error Supply air controller Bit13 – Not used Bit14 – High supply air temperature Bit15 – Low supply air temperature Bit16 – Supply air max limit active Bit17 – Supply air min limit active Bit18 – Too high room temperature Bit19 – Too low room temperature Bit20 – Too high extract air temperature Bit21 – Too low extract air temperature Bit22 – Overheating protection active Bit23 – Frost risk Bit24 – Frost protection active Bit25 – Low efficiency heat exchanger Bit26 – Sensor error Bit26 – Sensor error outdoor temperature (4) Bit27 – Analogue de-icing of heat exchanger active Bit28 – Rotation guard heat exchanger Bit29 – Fire damper is out of operation Bit30 – Control error Supply air fan Bit31 – Control error Extract air fan Bit32 – External operation Supply air fan Bit33 – External operation Extract air fan Bit34 – Manual running mode Bit35 – Manual operation Supply air controller

Name	SNVT_type	Description
nvoAlarm	SNVT_state_64	Bit36 – Manual operation Supply air fan Bit37 – Manual operation SAF Frequency converter Bit38 – Manual operation Extract air fan Bit39 – Manual operation EAF Frequency converter Bit40 – Manual output Heating Bit41 – Manual output Exchanger Bit42 – Manual output Cooling Bit43 – Manual operation PI-Heating Bit44 – Manual operation PI-Cooling Bit45 – Manual operation PI-Exchanger Bit46 – Manual operation Fire damper Bit47 – Internal Battery error Bit48 – Sensor error Supply air temp (4) Bit49 – Sensor error Extract air temp (4) Bit50 – Sensor error Room temp 1 (4) Bit51 – Sensor error Room temp 2 (4) Bit52 – Sensor error Exhaust air temp (4) Bit53 – Sensor error Extra sensor (4) Bit54 – Sensor error SAF pressure (4) Bit55 – Sensor error EAF pressure (4) Bit56 – Sensor error De-icing temp (4) Bit57 – Sensor error Frost protection temp (4) Bit58 – Sensor error CO2 (4) Bit59 – Sensor error Humidity room (4) Bit60 – Sensor error Humidity duct (4)
nvoRunMode	SNVT_state	Binary 0 = Stop 1 = Starting up 2 = Starting half speed 3 = Starting full speed 4 = Alarm delay 5 = Normal operation 6 = Support control Heating 7 = Support control Cooling 8 = CO ₂ control 9 = Free cooling 10 = Full speed stop 11 = Fan stop 12 = Fire run (5) 13 = Recirculation run (5) 14 = De-icing (5)

Table of Network Variables, Inputs (NVI)

Name	SNVT_type	Description
nviOutdoorTemp	SNVT_temp_p	Outdoor temperature. Overrides signal from local sensor
nviRoomTemp	SNVT_temp_p	Room temperature. Overrides signal from local sensor
nviFullSpeedExt	SNVT_switch	Force to full speed (1)
nviExternalStop	SNVT_switch	External stop (1)
nviFireAlarm	SNVT_switch	Fire alarm (1)
nviSetPoint	SNVT_temp_p	Setpoint Supply air
nviCascadSetp	SNVT_temp_p	Setpoint cascade control. Depending on configuration (Room temp if room control is configured,

		Extract air temp if extract air control is configured)
nviMaxLimit	SNVT_temp_p	Max limit Supply air
nviMinLimit	SNVT_temp_p	Min limit Supply air
nviOccCmd	SNVT_occupancy	0 = The unit is forced to run at 1/1-speed (3) 1 = Shut down. Support control and free cooling not active. Frost protection active if configured 2 = Runs according to the built-in timer. Support control and free cooling active if configured 3 = Unit stopped. Support control and free cooling active if configured. Frost protection active if configured
nviSndHrtB	SNVT_time_sec	Heart Beat (0 = disable)
nviTempHyst	SNVT_temp_p	Hysteresis for variables of the type _temp_p (2)
nviCO2Hyst	SNVT_ppm	Hysteresis for variables of the type _ppm (CO ₂) (2)
nviPercentHyst	SNVT_lev_percent	Hysteresis for variables of the type _lev_percent (2)
nviPresHyst	SNVT_press_p	Hysteresis for variables of the type _press_p (Pressure) (2)
nviAirFlowHyst	SNVT_flow_p	Hysteresis for variables of the type _flow_p (Air flow)(2)
nviVoltHyst	SNVT_volt_f	Hysteresis for variables of the type _volt_f (Ao) (2)
nviSFPresSetpNor	SNVT_press_p	Setpoint pressure supply air fan normal operation (5)
nviEFPresSetpNor	SNVT_press_p	Setpoint pressure extract air fan normal operation (5)
nviSFPresSetptRed	SNVT_press_p	Setpoint pressure supply air fan reduced operation (5)
nviEFPresSetptRed	SNVT_press_p	Setpoint pressure extract air fan reduced operation (5)
nviSFAirFlowSetpNor	SNVT_flow	Setpoint flow supply air fan normal operation (5)
nviEFAirFlowSetpNor	SNVT_flow	Setpoint flow extract air fan normal operation (5)
nviSFAirFlowSetptRed	SNVT_flow	Setpoint flow supply air fan reduced operation (5)
nviEFAirFlowSetptRed	SNVT_flow	Setpoint flow extract air fan reduced operation (5)
nviParaTransfer	SNVT_temp_p	Parallel displacement of the supply air setpoint at outdoor compensated supply air temperature control (6)

- (1) For these parameters it is possible to use both a local hard-wired digital input and the Lon parameter. Activation of either alternative will trigger the function. However, if a function has been set using the Lon network it must also be reset using the Lon network since the nvi input value cannot be reset locally.
- (2) The hysteresis variables have nothing to do with the control software in the controller. They are internal to the LON interface and are used for minimising the amount of communication in the LON network.
- (3) Only Corrigo E version 1.8 or later. CorrigoEventilation1_8.APB and CorrigoEventilation1_8.xif are also required.
- (4) Only Corrigo E version 2.1 or later. CorrigoEventilation2_1.APB and CorrigoEventilation2_1.xif are also required.
- (5) Only Corrigo E version 3.0 or later. CorrigoEventilation3_0.APB and CorrigoEventilation3_0.xif are also required. The flow variables are given in l/s, i.e. you divide the value by 3.6 to convert it to m³/h.
- (6) Only Corrigo E version 3.1 or later. CorrigoEventilation3_1.APB and CorrigoEventilation3_1.xif are also required.

Corrigo E Heating

Application files, CorrigoEHeating.apb and CorrigoEHeating.xif

The files CorrigoEHeating.APB and CorrigoEHeating.XIF are included in the E tool distribution.

E tool can be downloaded free of charge from Regin's website: www.regin.se.

After downloading and installing E tool, the files can be found in the folder:

Exo\Slib\Corrigo\HeatingProgram\Lon.

Use the file CorrigoEHeatingX_Y that corresponds to the revision in the Corrigo. The files CorrigoEHeatingX_Y-S should be used when the unit is marked -S.

The first time a Corrigo E Heating controller is used in a LON network, the application file CorrigoEHeating.apb must be loaded to the Corrigo E.

Use Echelon LonMaker (or any other LON network program that can download application software to a LON device).

Table of Network Variables, Outputs (NVO)

Name	SNVT_type	Description
nvoHS1SupplyTemp	SNVT_temp_p	Actual value, Supply temperature HS1
nvoHS2SupplyTemp	SNVT_temp_p	Actual value, Supply temperature HS2
nvoHS3SupplyTemp	SNVT_temp_p	Actual value, Supply temperature HS3
nvoHS1SupplySetp	SNVT_temp_p	Setpoint, Supply temperature HS1
nvoHS2SupplySetp	SNVT_temp_p	Setpoint, Supply temperature HS2
nvoHS3SupplySetp	SNVT_temp_p	Setpoint, Supply temperature HS3
nvoOutdoorTemp	SNVT_temp_p	Outdoor temperature
nvoHS1RoomTemp	SNVT_temp_p	Room temperature HS1
nvoHS2RoomTemp	SNVT_temp_p	Room temperature HS2
nvoHS3RoomTemp	SNVT_temp_p	Room temperature HS3
nvoHW1SupplyTemp	SNVT_temp_p	Actual value, Supply temperature HW1
nvoHW2SupplyTemp	SNVT_temp_p	Actual value, Supply temperature HW2
nvoHW1SupplySetp	SNVT_temp_p	Setpoint, Supply temperature HW1
nvoHW2SupplySetp	SNVT_temp_p	Setpoint, Supply temperature HW2
nvoHPISupplyTemp	SNVT_temp_p	Storage tank, Supply temperature
nvoHPIStartTemp	SNVT_temp_p	Storage tank, Start temperature
nvoHPIStopTemp	SNVT_temp_p	Storage tank, Stop temperature
nvoBoilerTemp	SNVT_temp_p	Boiler temperature, Actual value
nvoBoilStartTmp1	SNVT_temp_p	Boiler, Start temperature 1
nvoBoilStartTmp2	SNVT_temp_p	Boiler, Start temperature 2
nvoBoilerStopTmp	SNVT_temp_p	Boiler, Stop temperature
nvoWindSpeed	SNVT_speed	Wind speed
nvoDP	SNVT_press_f	Differential pressure
nvoDPSetp	SNVT_press_f	Setpoint, Differential pressure
nvoVolume	SNVT_vol_kilo	Volume, Hot water
nvoCW1Volume	SNVT_vol_kilo	Volume, Cold water 1
nvoCW2Volume	SNVT_vol_kilo	Volume, Cold water 2
nvoAo1	SNVT_volt_f	Output signal Ao1
nvoAo2	SNVT_volt_f	Output signal Ao2
nvoAo3	SNVT_volt_f	Output signal Ao3
nvoAo4	SNVT_volt_f	Output signal Ao4
nvoAo5	SNVT_volt_f	Output signal Ao5

Name	SNVT_type	Description
nvoRunInd	SNVT_state	Bit0 – HS1-PIA Run indication Bit1 – HS1-PIB Run indication Bit2 – HS2-PIA Run indication Bit3 – HS2-PIB Run indication Bit4 – HS3-PIA Run indication Bit5 – HS3-PIB Run indication Bit6 – HW1-PI Run indication Bit7 – HWB-PI Run indication Bit8 – Frequency converter Run indication Bits9...15 not used
nvoDoValue	SNVT_state	Bit0 – Output signal Do1 Bit1 – Output signal Do2 Bit2 – Output signal Do3 Bit3 – Output signal Do4 Bit4 – Output signal Do5 Bit5 – Output signal Do6 Bit6 – Output signal Do7 Bits7...15 not used
nvoAlarm	SNVT_state_64	Bit0 – Run error PIA-HS1 Bit1 – Run error PIB-HS1 Bit2 – Run error PIA-HS2 Bit3 – Run error PIB-HS2 Bit4 – Run error PIA-HS3 Bit5 – Run error PIB-HS3 Bit6 – Run error PI-Hot water I Bit7 – Run error PI-Storage tank Bit8 – Run error frequency converter Bit9 – Expansion vessel alarm Bit10 – External alarm Bit11 – Alarm, Boiler Bit12 – HS1 control error Bit13 – HS2 control error Bit14 – HS3 control error Bit15 – HW1 control error Bit16 – HW2 control error Bit17 – Sensor error Bit17 – Sensor error outdoor temperature (4) Bit18 – High supply temp. HW1 Bit19 – High supply temp. Boiler Bit21 – Low supply temp. Boiler Bit22 – Pulse error, volume pulse Bit23 – Pulse error, energy pulse Bit24 – High 24 hour usage Cold water Bit25 – High energy consumption Bit24 – High hour usage Cold water Bit27 – Leakage Bit28 – Run error PIA&B-HS1 Bit29 – Run error PIA&B-HS2 Bit30 – Run error PIA&B-HS3 Bit31 – Pulse error CW1 Bit32 – Pulse error CW2 Bit33 – Max. limit supply temp. HS1 Bit34 – Max. limit supply temp. HS2 Bit35 – Max. limit supply temp. HS3 Bit36 – Min. limit supply temp. HS1 Bit37 – Min. limit supply temp. HS2 Bit38 – Min. limit supply temp. HS3 Bit39 – Max. limit return temp. HS1 Bit40 – Max. limit return temp. HS2

Name	SNVT_type	Description
nvoAlarm	SNVT_state_64	Bit41 – Max. limit return temp. HS3 Bit42 – Min. limit return temp. HS1 Bit43 – Min. limit return temp. HS2 Bit44 – Min. limit return temp. HS3 Bit45 – Frost protection HS1 Bit46 – Frost protection HS2 Bit47 – Frost protection HS3 Bit48 – Internal battery error Bit49 – Low return temp Boiler (4) Bit50 – Sensor error HS1 Supply (4) Bit51 – Sensor error HS2 Supply (4) Bit52 – Sensor error HS3 Supply (4) Bit53 – Sensor error HW1 Supply (4) Bit54 – Sensor error HW2 Supply (4) Bit55 – Sensor error HPI Supply (4) Bit56 – Sensor error HS1 Room (4) Bit57 – Sensor error HS2 Room (4) Bit58 – Sensor error HS3 Room (4) Bit59 – Sensor error HS1 Return (4) Bit60 – Sensor error HS2 Return (4) Bit61 – Sensor error HS3 Return (4) Bit62 – Sensor error HPI Return (4) Bit63 – Sensor error Wind (4)

Table of Network Variables, Inputs (NVI)

Name	SNVT_type	Description
nviOutdoorTemp	SNVT_temp_p	Outdoor temperature. Overrides signal from local sensor
nviHS1RoomTemp	SNVT_temp_p	Room temp HS1. Overrides signal from local sensor
nviHS2RoomTemp	SNVT_temp_p	Room temp HS2. Overrides signal from local sensor
nviHS3RoomTemp	SNVT_temp_p	Room temp HS3. Overrides signal from local sensor
nviHW1Setp	SNVT_temp_p	Setpoint, Supply HW1
nviHW2Setp	SNVT_temp_p	Setpoint, Supply HW2
nviDPSetp	SNVT_press_f	Setpoint Differential pressure
nviSndHrtB	SNVT_time_sec	Heart Beat (0 = disable)
nviTempHyst	SNVT_temp_p	Hysteresis for the variable type _temp_p (2)
nviPresHyst	SNVT_press_f	Hysteresis for the variable type _press_f (2)
nviSpeedHyst	SNVT_speed	Hysteresis for the variable type _speed (2)
nviVoltHyst	SNVT_volt_f	Hysteresis for the variable type _volt_f (Ao) (2)

- (2) The hysteresis variables have nothing to do with the control software in the controller. They are internal to the LON interface and are used for minimising the amount of communication in the LON network.
- (4) Only Corrigio E version 2.1 or later. CorrigioEHeating2_1.APB and CorrigioEHeating2_1.xif are also required.