

SoftGate

Data Acquisition Manager
Microsoft® COM/OLE Automation® component

User Manual English

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1. Specification.

Direct commands: a number of functions related to specific instrument capabilities. They can be sent to the selected device anytime. Available commands are:

- **Keyboard:** locks or unlocks device keyboard usage.
- **Power:** enables or disables device functionalities (display/relay...).
- **Light:** switches on or off an output dedicated to light control (an output of the device needs to be configured for this specific functionality).
- **Defrost:** run defrost function (for instruments with this capability and subject to restrictions controlled by the device).
- **DateTime:** set instrument date and/or time equal to computer date and time.

Network adapter: communication interface between an instrument network and a personal computer; this is usually connected to a serial port of the personal computer and acts the following tasks:

- Manages conversion between RS-232 and RS-485 (and vice-versa) physical protocol when the personal computer is communicating with the devices.
- Manages loss of communication condition between personal computer and itself.
- Manages software capabilities permissions information (acts as a software dongle).

There are two logical categories of network adapters:

- Primary: contains information on software capabilities (maximum number of manageable networks, maximum number of manageable devices, etc.); acts also as a network interface (RS-232/RS-485)
- Auxiliary or secondary: acts as a simple network interface (RS-232/RS-485) extending the capabilities of a primary network adapter.

It is necessary one primary network adapter connected to a PC to run this software component.

A network adapter can also manage some physical resources acting like a device.

Network: logical entity composed by one network adapter and a number of connected devices; there is a bi-univocal correspondence between network and communication port used by the personal computer. For each network a maximum of 224 devices may be addressed.

Resource: identify one of the entity managed by a device; resources are defined as:

- Analog inputs
- Digital inputs
- Analog outputs
- Digital outputs
- State
- Alarms

For each analog input there are some related information:

- Measurement unit (see appendix A for the list of all the available measurement units).
- Decimal point position (this is a multiplier that must be applied to the physical reading from the device to obtain a standard representation in respect to the measurement unit [integer.decimal]).

Device: physical device connected to an RS-485 network through a network adapter. For each device are defined the following items:

- Identification:
 - Network Address.
 - Device Model.
 - Device Version
- Managed resources:
 - Number of Analog Inputs
 - Number of Digital Inputs
 - Number of Analog Outputs
 - Number of Digital Outputs
 - List of managed State (see appendix C)
 - List of managed Alarms (see appendix B)

Parameter group: group of parameters as a subset of a parameter table model; each group represent a view; one parameter can be present in one or more groups.

Parameter table model: complete set of parameters describing the configuration af a device.

Parameter: single item describing a specific characteristic of a device; a parameter is defined by the following information:

- **id**: unique identifier of the parameter within the parameter table model.
- **tag**: label that shortly identifies the parameter (this is usually displayed on the device menu).
- **type**: parameter format type (byte, word, ...).
- **min_type**: defines how min_val must be interpreted:
 - **none** (no minimum value).
 - **Absolute** (the minimum value is an absolute value).
 - **Parameter** (the minimum value is a reference to a parameter containing the value).
- **min_val**: minimum value for the parameter (according to min_type).
- **max_type** : defines how max_val must be interpreted:
 - **None** (no maximum value).
 - **Absolute** (the maximum value is an absolute value).
 - **Parameter** (the maximum value is a reference to a parameter containing the value).
- **max_val** : maximum value for the parameter (according to max_type).
- **default_val** : default value for the parameter.
- **um** : measurement unit for the parameter.
- **dec_point_pos** : decimal point position relative to the measurement unit type (+1, +2, ... indicates that the value must be divided for 10, 100, ...; 0 means that the value is correctly represented as per the measurement unit; -1, -2, ... means that the value must be multiplied by 10, 100, ...).

2. General description.

DAM is a software component developed under Microsoft® COM/OLE Automation® specification. Its purpose is to simplify interfacing communication between devices with Invensys Televis protocol and software programs developed for Windows 95/98/Me/Nt4/2000/Xp, capable of working as an OLE Automation Client. Main functionalities of the component are:

- Simultaneous connection to a number of devices limited only by the number of communication ports physically present on the hosting personal computer.
- Automated recognition of device networks connected to the personal computer.
- Automated recognition of devices present for each network.
- Automated recognition of all the resources managed by each device present for each network.
- Automated data acquisition for groups of resources related to many devices with events for data reading completion.
- Synchronous data reading of resources from single devices.
- Direct command for device specific functionalities (defrost, light, auxiliary, etc...).
- Read / Write (with or without validation) device parameters.
- Gives parameter properties for complete parameter map tables (device specific model by model).

To correctly run DAM there is the need for minimum one primary network adapter that assigns to the system the maximum allowed capabilities. If no primary network adapter is found, DAM runs in a DEMO mode with all the functionalities active for 120 minutes; after that time all communications to and from the network are locked.

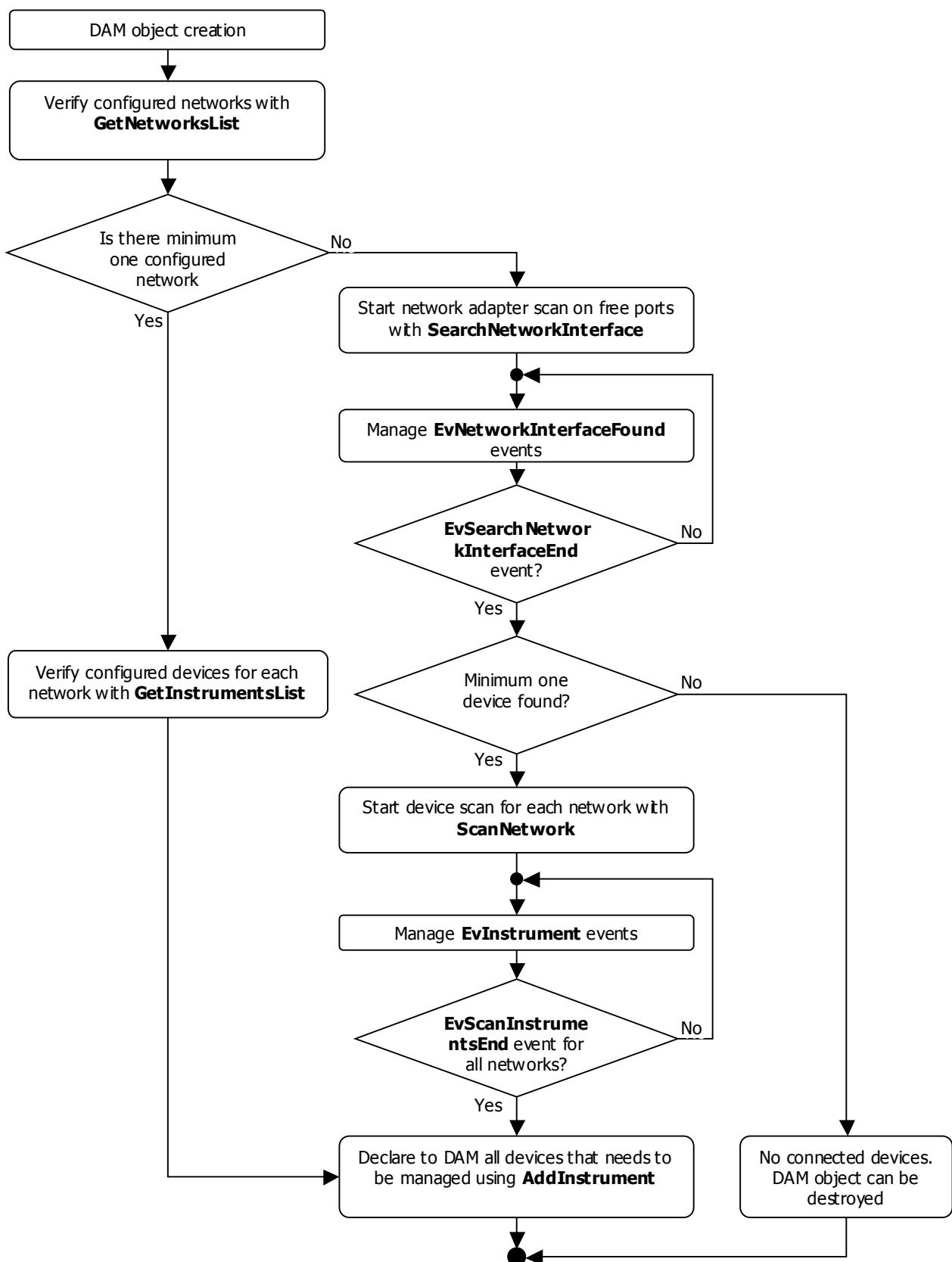
DAM is a SINGLETON component; only one instance of this component may run on a single machine. All the software programs needing the DAM component services will refer to an unique instance. This means that DAM will be instantiated the first time it is used by an application and can be destroyed only when all the applications referring to the component are disconnected from the component.

This solution is necessary to offer an unique interface to the device networks for an optimal and sure management of concurrent activities.

For a correct usage of the DAM component it is necessary to follow a sequence of preliminary tasks which objective is to determine the networks of devices to be managed. Read the following chapter for an explanation of this sequence.

3. DAM component start-up sequence.

To access the functionalities of the component it is necessary to perform the following sequence of tasks to determine the managed networks and devices structure:



At this point DAM is configured to manage communication with the desired device networks.

It is now possible to use methods for:

- accessing information about resource structure for each device (using **GetIoConfiguration**);
- send direct commands (using **NetworkCommand**);
- read resource value (using **GetResourcesValueSync** or **GetResourcesValue**).

Anytime it is possible to access (read / write) device parameters with the following sequence of operations:

- Gather information about the target device model with **GetModelInfo**.
- Gather information about available parameters for the selected device model with **GetParametersInfo**.
- Access parameters with **ReadSingleParameter** and **WriteSingleParameter** methods

The first two methods are available also without a device physically connected to the network simply referring to a data structure describing the target device (this is useful to manage parameter map tables off-line).

Depending on the model of the primary network adapter some functionalities can be limited or not available (e.g. maximum number of devices, read and/or write parameters). See the information for **UDTProtectionInfo** structure for details on permissions.

Note: the primary network adapter can have a pluggable license card that enables or disables those permissions; refer to the network adapter and license card documentation for details on this functionality.

Depending on permissions given by the primary network adapter it is also possible to enable automated data acquisitions for a group of resources of one or more devices. In this case operate as follows:

- define all the resources that will be included in the automated acquisition (using **AcquisitionConfig**).
- enable automated acquisition mode (using **StartAcquisition**).

DAM sorts all the resources grouping them, on the basis of acquisition interval, then starts with the acquisition process.

The component polls the network to acquire data from each device; when all the data for each group is acquired and cached in RAM, data reading are available for direct reading (using **GetResourcesValue**). Depending on permissions given by the primary network adapter DAM generate an event (**EvAcquiredResources** event) to inform the application that the values for a certain group are updated carrying out also last reading for each resource.

With the **StopAcquisition** method automated reading are stopped.

When DAM is in automated reading mode, all other methods are still available. For example it is possible to send a direct command to one or more devices; DAM manages automatically execution priorities for different kind of requests.

Some events generated by DAM signals abnormal situations:

- When one of the configured network adapters is not anymore accessible (not responding) an **EvLinkLost** event is generated for the corresponding network. All the activities configured for that network are destroyed; the only one allowed operation through DAM is the method **RemoveInterface** with which all the resources related to that network are released to the system.
- When a direct command is not supported by the device or there is a wrong response from the device to that command, an **EvNetworkCommandFailure** event is generated.

To stop definitely DAM activity, three methods are allowed:

- **ResetInstrumentsList**, clears the complete list of configured instruments for a selected network.
- **RemoveInterface**, clears all the data and the handles for a network.
- **Stop** clears all the network currently managed.

Destroying the DAM object (and if no other client programs are linked to the component) all the configured activities are locked, all the resource are freed and released to the system.

4. Enumerations.

DAM_RETURN_CODE

Use

Return codes provided by public methods.

Literal	Value	Description
DAM_RETURN_CODE_OK	0	Requested operation correctly completed.
DAM_RETURN_CODE_ERROR	1	Requested operation not completed.
DAM_RETURN_CODE_MODEL_NOT_FOUND	3	No parameter table model is available for the specified device model.
DAM_RETURN_CODE_PARAMETER_NOT_FOUND	4	Requested parameter is not available for the specified device model.
DAM_RETURN_READ_ERROR	5	Error writing a parameter to a device.
DAM_RETURN_WRITE_ERROR	6	Error reading a parameter from a device.

DAM_NETWORK_COMMAND

Use

Direct command codes.

Literal	Value	Description
DAM_NETWORK_COMMAND_KEYBOARD	0	Lock / Unlock local keyboard for the device
DAM_NETWORK_COMMAND_POWER	1	Switch on / off the device
DAM_NETWORK_COMMAND_LIGHT	2	Switch on / off light output
DAM_NETWORK_COMMAND_DEFROST	3	Start defrost
DAM_NETWORK_COMMAND_DATETIME	4	Set date and time

DAM_RESOURCE_TYPE

Use

Resource types for the devices.

Literal	Value	Description
DAM_RESOURCE_TYPE_UNDEFINED	0	Undefined resource
DAM_RESOURCE_TYPE_ANALOG_INPUT	1	Analog input
DAM_RESOURCE_TYPE_DIGITAL_INPUT	2	Digital input
DAM_RESOURCE_TYPE_STATE	3	State
DAM_RESOURCE_TYPE_ALARM	4	Alarm
DAM_RESOURCE_TYPE_ANALOG_OUTPUT	5	Analog output
DAM_RESOURCE_TYPE_DIGITAL_OUTPUT	6	Digital output

DAM_RES_OPER

Use

Operation codes for automated acquisition group settings.

Literal	Value	Description
DAM_RES_OPER_REMOVE_ALL	0	Clears the complete group of resources previously defined.
DAM_RES_OPER_REMOVE	1	Remove a resource from the group.
DAM_RES_OPER_ADD	2	Insert a resource in the group.
DAM_RES_OPER_SUBSTITUTE	3	Substitute a group of resource with the one passed in the command.

DAM_INTERFACE_TYPE

Use

Network adapter license types for use with Softgate.
All other values are not valid for use with SoftGate.

Literal	Value	Description
DAM_INTERFACE_TYPE_MASTER_OCX	16	Primary network adapter suitable for use with the distributable DAM COM object.
DAM_INTERFACE_TYPE_EXPANTION	18	N.A.

DAM_TYPE

Use

Available formats for a parameter in read/write operations.

Literal	Value	Description
DAM_TYPE_CHAR	0	Signed integer (7 bits + sign bit)
DAM_TYPE_BYTE	1	Unsigned integer: 8 bits
DAM_TYPE_SHORT	2	Signed integer (15 bits + sign bit)
DAM_TYPE_WORD	3	Unsigned integer: 16 bits
DAM_TYPE_LONG	4	Signed integer (31 bits + sign bit)
DAM_TYPE_DWORD	5	Unsigned integer: 32 bits
DAM_TYPE_FLOAT	6	Real (32 bits single precision)
DAM_TYPE_DOUBLE	7	Real (64 bits double precision)
DAM_TYPE_STRING	8	ANSI string (8 bits per char).
DAM_TYPE_BITS	9	Unsigned integer (with variable size between 1 and 32 bits).

DAM_VAL

Use

Available values for the minimum/maximum range of a parameter.

Literal	Value	Description
DAM_VAL_NONE	0	The parameter does not admit a minimum or maximum range value.
DAM_VAL_ABSOLUTE	1	The minimum or maximum value is an absolute value.
DAM_VAL_LINKED_PARAM	2	The minimum or maximum value is a reference to a parameter containing the value.

DAM_UM

Use

Measurement units for analog inputs and parameters.

Literal	Value	Description
DAM_UM_CELS	0	Temperature expressed in Celsius degrees (°C)
DAM_UM_FAR	1	Temperature expressed in Fahrenheit degrees (°F)
DAM_UM_RH	3	Relative Humidity expressed as a % (% RH)
DAM_UM_VOID	4	Undefined
DAM_UM_PA	5	Pressure expressed in pascal (PA)
DAM_UM_BIN	6	Digital binary status (BIN)
DAM_UM_PSI	7	Pressure expressed in Pascal (PSI)
DAM_UM_VOLT	8	Electrical voltage expressed in Volt (V)
DAM_UM_AMP	9	Electrical current expressed Ampere (A)
DAM_UM_HZ	10	Frequency expressed in Hertz (Hz)
DAM_UM_PERC	11	Percentage value (%) - added in v. 1.0.0 -
DAM_UM_SECONDS	12	Time expressed in seconds (") - added in v. 1.0.0 -
DAM_UM_MINUTES	13	Time expressed in minutes (') - added in v. 1.0.0 -
DAM_UM_HOURS	14	Time expressed in hours (h) - added in v. 1.0.0 -
DAM_UM_CELSIOS10	15	Temperature expressed in tenth of Celsius degrees (°C x10) - added in v. 1.0.0 -
DAM_UM_SECONDS10	16	Time expressed in tenth of seconds (" x 10) - added in v. 1.0.0 -
DAM_UM_BAR10	17	Pressure expressed in tenth of bar - added in v. 1.0.0 -

5. Data Structures.

UDTAcquiredResource

Use

Information about a single resource acquired from a device, either in automated or manual mode.

Field	Type	Description
net_address	Long	Address within the network of the parent device. - changed in v 1.0.0 (old = BYTE) -
sub_address	Long	Address within the sub-network of the parent device. - added in v. 1.0.0 -
type	DAM_RESOURCE_TYPE	Resource type (see: DAM_RESOURCE_TYPE).
index	Long	Resource index within the type group of resources.
id	Long	Resource identifier
value	Single	Value of the resource as a floating point value - changed in v 1.0.0 (old = LONG) -
nolink	Long	Loss of communication indicator (referred to the parent device).
timestamp	Long	time-stamp for the acquired value - added in v. 1.0.0 -

UDTResourceDefinition

Use

Information necessary for automated resource management.

Field	Type	Description
address	Long	Address within the network of the parent device. - changed in v 1.0.0 (old = BYTE) -
type	DAM_RESOURCE_TYPE	Resource type (see: DAM_RESOURCE_TYPE).
index	Long	Resource index within the type group of resources.
id	Long	Resource identifier
sample_time	Long	Time interval in seconds for resource data acquisition from the device.

UDTInstrumentInfo

Use

Information that identifies exclusively a device within a network.

Field	Type	Description
address	Long	Device address within the network. - changed in v 1.0.0 (old = BYTE) -
family_msb	Long	Device microprocessor/firmware family (msb). - changed in v 1.0.0 (old = BYTE) -
family_lsb	Long	Device microprocessor/firmware family (lsb). - changed in v 1.0.0 (old = BYTE) -
version_msb	Long	Device firmware version (msb). - changed in v 1.0.0 (old = BYTE) -
version_lsb	Long	Device firmware version (lsb). - changed in v 1.0.0 (old = BYTE) -
software_day	Long	Device firmware version release date (day of the month). - changed in v 1.0.0 (old = BYTE) -
software_month	Long	Device firmware version release date (month). - changed in v 1.0.0 (old = BYTE) -
software_year	Long	Device firmware version release date (year, last two digits). - changed in v 1.0.0 (old = BYTE) -
device_code_msb	Long	Device model (msb). - changed in v 1.0.0 (old = BYTE) -
device_code_lsb	Long	Device model (lsb). - changed in v 1.0.0 (old = BYTE) -
pch_msb	Long	Device parameter table index(msb). - changed in v 1.0.0 (old = BYTE) -
pch_lsb	Long	Device parameter table index (lsb). - changed in v 1.0.0 (old = BYTE) -

UDTProtectionInfo

Use

Information on functionalities enabled by the primary network adapter.

Field	Type	Description
is_valid	Long	TRUE if the following information are given by the physical primary network device; FALSE if the component is running in DEMO mode for lack of information from the network adapter. - changed in v 1.0.0 (old = BOOL) -
interface_type	DAM_INTERFACE_TYPE	Type of primary network adapter found (see: DAM_INTERFACE_TYPE).
max_networks	Long	Maximum number of simultaneously configured networks allowed for the component.
ts_01	Long	N.A.
max_instruments	Long	Maximum number of simultaneously configured devices for the component

		(total number for all the networks connected to the same personal computer)
is_demo_mode	Long	TRUE for DEMO MODE. - changed in v 1.0.0 (old = BOOL) -
has_async_read	Long	TRUE if asynchronous (automated) data acquisition is allowed. - changed in v 1.0.0 (old = BOOL) -
has_global_command	Long	TRUE if it is allowed to send direct commands to the devices. - changed in v 1.0.0 (old = BOOL) -
ts_02	Long	N.A. - changed in v 1.0.0 (old = BOOL) -
ts_03	Long	N.A. - changed in v 1.0.0 (old = BOOL) -
parameter_read_level	Long	Maximum level of accessibility for device parameter reading (0 = means all parameters).
parameter_write_level	Long	Maximum level of accessibility for device parameter writing (0 = means all parameters).
ts_04	Long	N.A.
ts_05	Long	N.A. - changed in v 1.0.0 (old = BOOL) -
ts_06	Long	N.A. - changed in v 1.0.0 (old = BOOL) -
ts_07	Long	N.A. - changed in v 1.0.0 (old = BOOL) -
ts_08	Long	N.A. - changed in v 1.0.0 (old = BOOL) -
ts_09	Long	N.A. - changed in v 1.0.0 (old = BOOL) -
ts_10	Long	N.A. - changed in v 1.0.0 (old = BOOL) -
ts_11	Long	N.A. - changed in v 1.0.0 (old = BOOL) -
ts_12	Long	N.A.

UDTTargetModel

Use

Information of the device model needed to uniquely identify the parameter table model.

Field	Type	Description
family_msb	Long	Device microprocessor/firmware family (msb). - changed in v 1.0.0 (old = BYTE) -
family_lsb	Long	Device microprocessor/firmware family (lsb). - changed in v 1.0.0 (old = BYTE) -
version_msb	Long	Device firmware version (msb). - changed in v 1.0.0 (old = BYTE) -
version_lsb	Long	Device firmware version (lsb). - changed in v 1.0.0 (old = BYTE) -
device_code_msb	Long	Device model (msb). - changed in v 1.0.0 (old = BYTE) -
device_code_lsb	Long	Device model (lsb). - changed in v 1.0.0 (old = BYTE) -
pch_msb	Long	Device parameter table index(msb). - changed in v 1.0.0 (old = BYTE) -

pch_lsb	Long	Device parameter table index (lsb). - changed in v 1.0.0 (old = BYTE) -
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UDTPParamInfo

Use

Information on structure and value of a single parameter.

Field	Type	Description
id	Long	Unique identifier of a parameter within a parameter table model.
tag	String	Parameter label.
type	DAM_TYPE	Parameter type.
min_type	DAM_VAL	Defines how min_val must be interpreted.
min_val	Variant	Minimum value for the parameter (according to min_type).
max_type	DAM_VAL	Defines how max_val must be interpreted.

max_val	Variant	Maximum value for the parameter (according to max_type).
default_val	Variant	Default value for the parameter.
um	DAM_UM	Measurement unit for the parameter.
dec_point_pos	Long	Decimal point position relative to the measurement unit type (+1, +2, ... indicates that the value must be divided by 10, 100, ...; 0 means that the value is correctly represented as per the measurement unit; -1, -2, ... means that the value must be multiplied by 10, 100, ...).

6. Methods.

AcquisitionConfig

Description:

Defines the group of resources that will be automatically acquired by the component; the resource may be defined one by one or by an array; if one group is already defined, the new array will substitute, or will be merged to the existing group depending on parameter **oper**.

Exception return type:

HRESULT

Value	Description
S_OK	Operation executed without errors.
E_POINTER	Parameter info is null.
E_OUTOFMEMORY	It is necessary to run network detection before this operation.

Syntax:

AcquisitionConfig(*handle As Long*, *oper As DAM_RES_OPER*, *info() As UDTResourceDefinition*)

Parameters	Type	Description
<i>handle</i>	Long	Handle to the network containing the resources to be acquired.
<i>oper</i>	DAM_RES_OPER	Type of operation to be performed with the new resources.
<i>info</i>	Array of UDTResourceDefinition	Array of resources to be added to the group.

AddInstrument

Description:

Add a device to the list of devices managed by the component for a single network.

Exception return type:

HRESULT

Value	Description
S_OK	Operation executed without errors.
E_OUTOFMEMORY	It is necessary to run network detection before this operation.

Syntax:

AddInstrument(*handle As Long, info As UDTInstrumentInfo*)

Parameter	Type	Description
handle	Long	Handle to the network containing the resources to be acquired.
info	UDTInstrumentInfo	Unique identifier of the device to be added to the specified network.

GetAcquisitionState**Description:**

Retrieves the acquisition mode state.

Exception return type:**HRESULT**

Value	Description
FALSE	Automated acquisitions are stopped.
TRUE	Automated acquisitions are running.

Syntax:

GetAcquisitionState(*handle As Long*)

Parameter	Type	Description
handle	Long	Handle to the network for which the information is needed.

GetInstrumentsList**Description:**

Retrieves the list of configured devices for a single network; those devices have been configured using **AddInstrument** method.

Exception return type:**HRESULT**

Value	Description
S_OK	Operation executed without errors.
E_POINTER	Parameter info is null.
E_OUTOFMEMORY	It is necessary to run network detection before this operation.

Syntax:

GetInstrumentsList(*handle* As Long, *info()* As UDTInstrumentInfo)

Parameter	Type	Description
<i>handle</i>	Long	Handle to the network for which the information is needed.
<i>info</i>	Array of UDTInstrumentInfo	Array containing all the information about all the configured devices per the desiderate network.

GetIoConfiguration

Description:

Retrieves the list of resources managed by one device.

Exception return type:**HRESULT**

Value	Description
S_OK	Operation executed without errors.
E_OUTOFMEMORY	It is necessary to run network detection before this operation.

Syntax:

GetIoConfiguration(*handle* As Long, *addr* As BYTE, *digin()* As BYTE, *anin()* As BYTE, *um()* As BYTE, *mult()* As BYTE, *alarms()* As Long, *states()* As Long)

Parameter	Type	Description
<i>handle</i>	Long	Handle to the network containing the target device.
<i>addr</i>	BYTE	Network address of the target device.
<i>digin</i>	Array of BYTE - changed in v 1.0.0 (old = Long) -	Array containing information about digital inputs managed by the device; the array size matches the maximum number of digital inputs allowed by this model of device; each item value enables / disables the single digital input in accordance with the current configuration of the device.
<i>anin</i>	Array of BYTE - changed in v 1.0.0 (old = Long) -	Array containing information about analog inputs managed by the device; the array size matches the maximum number of analog inputs allowed by this model of device; each item value enables / disables the single analog input in accordance with the current configuration of the device.
<i>um</i>	Array of BYTE - changed in v 1.0.0 (old = Long) -	Array containing information about measurement units for each analog input; size of the array and position of the items is the same as per anin .

mult	Array of BYTE - changed in v 1.0.0 (old = Long) -	Array containing information about multipliers for each analog input; multiplier are necessary to define the representation of the value in relation with the measurement unit specified by um ; to correctly represent an analog value it is necessary to multiply it by the corresponding mult .
alarms	Array of Long	Array containing information about alarm codes managed by the device; alarm codes are listed in the appendix.
states	Array of Long	Array containing information about states managed by the device; state codes are listed in the appendix.

GetModelInfo

Description:

Acquire information on parameter table model; device model information are needed.

Exception return type:

HRESULT

Value	Description
E_POINTER	Parameter groups is null.
E_INVALIDARG	Parameter target is null.
E_OUTOFMEMORY	Error building groups array.

Function return type:

DAM_RETURN_CODE

Value	Description
DAM_RETURN_CODE_OK	Operation correctly completed.
DAM_RETURN_CODE_ERROR	Operation not executed.
DAM_RETURN_CODE_MODEL_NOT_FOUND	No parameter table model is available for the specified device model.

Syntax:

GetModelInfo (*target* as UDTTargetModel, *name* As String, *description* As String, *Groups()* as Long) as **DAM_RETURN_CODE**

Parameter	Type	Description
target	UDTTargetModel	Information that identifies the specific parameter table model.
name	String	Name of the model.
description	String	Description of the model.
groups	Array of Long	Array containing the information about parameter grouping; the size of the array matches the number of groups; each item represents the number of parameters for the group.

GetNetworksList

Description:

Retrieves the list of active networks; usually this method is invoked when a software connect to the component to retrieve all the information about the current configuration of the acquisition subsystem.

Exception return type:

HRESULT

Value	Description
S_OK	Operation executed without errors.
E_OUTOFMEMORY	It is necessary to run network detection before this operation.

Syntax:

GetNetworksList(*handles()* As Long)

Parameter	Type	Description
handles	Array of Long	Array of handles for all the active networks.

GetParametersInfo

Description:

Acquire information on all the parameters in a group for the selected parameter table model.

Exception return type:

HRESULT

Value	Description
E_POINTER	Parameter groups is null.
E_INVALIDARG	Parameter target is null.
E_OUTOFMEMORY	Error building parameters array.

Function return type:**DAM_RETURN_CODE**

Value	Description
DAM_RETURN_CODE_OK	Operation correctly completed.
DAM_RETURN_CODE_ERROR	Operation not executed.
DAM_RETURN_CODE_MODEL_NOT_FOUND	No parameter table model is available for the specified device model.

Syntax:

GetParametersInfo (*target As UDTTargetModel, group As Long, parameters() As UDTPParamInfo*)
as **DAM_RETURN_CODE**

Parametro	Tipo	Descrizione
<i>model</i>	UDTTargetModel	Information that identifies the specific parameter table model.
<i>group</i>	Long	Group index for which the parameter list is requested.
<i>parameters</i>	Array of UDTPParamInfo	Array containing the information about all the parameters for the requested group.

GetProtectionInfo

Description:

Retrieves the data structure containing all the information about level of permissions to access the functionalities of the component; those information are given by the primary network adapter; if this primary adapter is not present the component runs in DEMO MODE.

Exception return type:**HRESULT**

Value	Description
S_OK	Operation executed without errors.
E_OUTOFMEMORY	It is necessary to run network detection before this operation.

Syntax:

GetProtectionInfo(*info As UDTProtectionInfo*)

Parameter	Type	Description
<i>info</i>	UDTProtectionInfo	Data structure containing information about permissions level for the users of the component.

GetResourcesValue

Description:

Retrieves all the values for a type of resources in a single device; this method operates in two different ways depending on automated acquisition status:

- If the automated acquisition are stopped, this method acquires synchronously the data from the device for each resource.
- If the automated acquisition are running, this method gives the last buffered value for each resource.

Exception return type:

HRESULT

Value	Description
S_OK	Operation executed without errors.
E_POINTER	Parameter values is null.
E_INVALIDARG	It is necessary to run network detection before this operation.

Syntax:

GetResourcesValue(*handle As Long, addr As BYTE, restype As DAM_RESOURCE_TYPE, Values() As Single*)

Parameter	Type	Description
<i>handle</i>	Long	Handle to the network containing the target device.
<i>addr</i>	BYTE	Network address of the target device.
<i>restype</i>	DAM_RESOURCE_TYPE	Type of resource to read.
<i>values</i>	Array of Single - changed in v. 1.0.0 (old = Long) -	Array of values for each resource of the device that matches the requested type.

GetResourcesValueSync

Description:

Retrieves all the values for a type of resources in a single device; this method always acquires synchronously the data from the device for each resource independently by the status of automated acquisition.

Exception return type:

HRESULT

Value	Description
S_OK	Operation executed without errors.
E_POINTER	Parameter values is null.
E_INVALIDARG	It is necessary to run network detection before this operation.

Syntax:

GetResourcesValueSync(*handle As Long, addr As BYTE, restype As DAM_RESOURCE_TYPE, Values() As Single*)

Parameter	Type	Description
<i>handle</i>	Long	Handle to the network containing the target device.
<i>addr</i>	BYTE	Network address of the target device.
<i>restype</i>	DAM_RESOURCE_TYPE	Type of resource to read.
<i>values</i>	Array of Single - changed in v. 1.0.0 (old = Long) -	Array of values for each resource of the device that matches the requested type.

NetworkCommand**Description:**

Sends a direct command to a device.

Exception return type:**HRESULT**

Value	Description
S_OK	Operation executed without errors.
E_OUTOFMEMORY	It is necessary to run network detection before this operation.

Syntax:

NetworkCommand(*handle As Long, address As BYTE, cmd As DAM_NETWORK_COMMAND, mode As Long*)

Parameter	Type	Description
<i>handle</i>	Long	Handle to the network containing the target device.
<i>address</i>	BYTE	Network address of the target device.
<i>cmd</i>	DAM_NETWORK_COMMAND	Command code.
<i>mode</i>	Long	Enable (1) or disable (0) the action related to the command.

PM01 n.a.

PM02 n.a.

PM03 n.a.

ReadSingleParameter

Description:

Read the current value of a parameter from a specified device.

Exception return type:

HRESULT

Value	Description
E_POINTER	Parameter id_param is null.
E_INVALIDARG	Parameter target or value is null.

Function return type:

DAM_RETURN_CODE

Value	Description
DAM_RETURN_CODE_OK	Operation correctly completed.
DAM_RETURN_CODE_ERROR	Operation not executed.
DAM_RETURN_CODE_MODEL_NOT_FOUND	No parameter table model is available for the specified device model.
DAM_RETURN_CODE_PARAMETER_NOT_FOUND	Requested parameter is not available for the specified device model.
DAM_RETURN_READ_ERROR	Error reading a parameter from a device.

Syntax:

DAM_RETURN_CODE = ReadSingleParameter (*handle As long, target As UDTInstrumentInfo, id_param As long, value As variant*)

Parameter	Type	Description
handle	Long	Handle of the network containing the target device.
target	UDTInstrumentInfo	Information that identifies uniquely the target device.
id_param	Long	Unique identifier of the parameter within the parameter table model.
value	Variant	Value read from the device.

RemoveInterface

Description:

Removes all the handles to a network; automated acquisition referred to this network are stopped and all the references to the devices pertaining to that network are destroyed.

Exception return type:

HRESULT

Value	Description
S_OK	Operation executed without errors.
E_OUTOFMEMORY	It is necessary to run network detection before this operation.

Syntax:

RemoveInterface(*handle* As Long)

Parameter	Type	Description
<i>handle</i>	Long	Handle to the network to be removed.

ResetInstrumentsList

Description:

Clears all the configured devices for a network; automated acquisition referred to this network are stopped.

Exception return type:

HRESULT

Value	Description
S_OK	Operation executed without errors.
E_OUTOFMEMORY	It is necessary to run network detection before this operation.

Syntax:

ResetInstrumentsList(*handle* As Long)

Parameter	Type	Description
<i>handle</i>	Long	Handle to the network to be cleared.

ScanNetwork

Description:

Scan a defined range of addresses in a network to find and identify the physically connected devices; this method operates in asynchronous mode; for each device that is found there will be an event of type **EvInstrument**; the end of the scan process generates the event **EvScanInstrumentsEnd**.

Exception return type:

HRESULT

Value	Description
S_OK	Operation executed without errors.
E_OUTOFMEMORY	It is necessary to run network detection before this operation.

Syntax:

ScanNetwork(handle As Long, fromaddr As Long, toaddr As Long)

Parameter	Type	Description
handle	Long	Handle to the network to be scanned.
fromaddr	Long	First address to scan.
toaddr	Long	Last address to scan.

SearchNetworkInterface

Description:

Verify the presence of a network adapter on a single COM port; this method operates in asynchronous mode; information about the network adapter will be carried by an event of type **EvNetworkInterfaceFound**; at the end of the operations there will be an event of type **EvScanInstrumentsEnd**.

Exception return type:

HRESULT

Value	Description
S_OK	Operation executed without errors.
E_OUTOFMEMORY	It is necessary to run network detection before this operation.

Syntax:

SearchNetworkInterface(port As Long, handle As Long)

Parameter	Type	Description
port	Long	Index of the COM port to check (1=COM1, ...).
handle	Long	Handle that will be filled by the component with the unique identifier of the network. This is the reference that must be used with all the other methods.

StartAcquisition

Description

Start automated acquisition for all the configured resources for a specified network; if the level of permission allows that (see **GetProtectionInfo**), for each new acquisition there will be an event of type **EvAcquiredResources**; this event will be generated for each group of resources with a specific acquisition time interval.

Exception return type:

HRESULT

Value	Description
S_OK	Operation executed without errors.
E_OUTOFMEMORY	It is necessary to run network detection before this operation.

Syntax:

StartAcquisition(handle As Long)

Parameter	Type	Description
handle	Long	Handle to the target network.

Stop

Description:

Close all the active communications and removes the handles for all networks. This operation is equivalent to call the method **RemoveInterface** for all the networks.

Exception return type:

HRESULT

Value	Description
S_OK	Operation executed without errors.
E_OUTOFMEMORY	It is necessary to run network detection before this operation.

Syntax:

Stop

StopAcquisition

Description:

Disables automated acquisitions for a specified network.

Exception return type:

HRESULT

Value	Description
S_OK	Operation executed without errors.
E_OUTOFMEMORY	It is necessary to run network detection before this operation.

Syntax:

StopAcquisition(handle As Long)

Parameter	Type	Description
<i>handle</i>	Long	Handle to the target network.

StopScanInstruments

Note:

- added in v. 1.0.0 -

Description:

Stop instrument scan procedure for the selected network.

Exception return type:

HRESULT

Value	Description
S_OK	Operation executed without errors.
E_OUTOFMEMORY	It is necessary to run network detection before this operation.

Syntax:

StopScanInstruments(handle As Long)

Parameter	Type	Description
<i>handle</i>	Long	Handle to the target network.

WriteSingleParameter

Description:

Writes a value to a parameter in a specified device.

Exception return type:

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cod. RDD09X0001**

HRESULT

Value	Description
E_POINTER	Parameter id_param is null.
E_INVALIDARG	Parameter target or value is null.

Function return type:

DAM_RETURN_CODE

Value	Description
DAM_RETURN_CODE_OK	Operation correctly completed.
DAM_RETURN_CODE_ERROR	Operation not executed.
DAM_RETURN_CODE_MODEL_NOT_FOUND	No parameter table model is available for the specified device model.
DAM_RETURN_CODE_PARAMETER_NOT_FOUND	Requested parameter is not available for the specified device model.
DAM_RETURN_WRITE_ERROR	Error writing a parameter to a device.

Syntax:

WriteSingleParameter (*handle* As Long, *target* As UDTInstrumentInfo, *id_param* As Long, *value* As Variant) as **DAM_RETURN_CODE**

Parameter	Type	Description
<i>handle</i>	Long	Handle of the network containing the target device.
<i>target</i>	UDTInstrumentInfo	Information that identifies uniquely the target device.
<i>id_param</i>	Long	Unique identifier of the parameter within the parameter table model.
<i>value</i>	Variant	Value to write to the device.

7. Events.

EvAcquiredResources

Description

This event comes with the values of acquired resources when in automated acquisition mode; all the resources referred by this event pertains to the same acquisition interval group. This event is generated only if:

- Automated acquisition are activated (see **Start** method).
- The permissions level allows this kind of event.

Syntax

Sub EvAcquiredResources(handle As Long, acgres() As UDTAcquiredResource)

Parameter	Type	Description
handle	Long	Handle to the network containing the resources.
acgres	Array of UDTAcquiredResource	Array containing description and value for all the resources of the group with the same time interval.

EvInstrument

Description

This event comes with the information about a single instrument detected when canning a network for the presence of physically connected devices.

Syntax

Sub EvInstrument(handle As Long, info As UDTInstrumentInfo)

Parameter	Type	Description
handle	Long	Handle to the network containing the device.
info	UDTInstrumentInfo	Information for the detected device.

EvLinkLost

Description

This event is generated as an information when it is not possible to communicate anymore with one network through a network adapter; to release all the resources for this network it is still necessary to use the method **RemoveInterface**.

Syntax

Sub EvLinkLost(handle As Long)

Parameter	Type	Description
handle	Long	Handle to the network where the NoLink occurred.

EvNetworkCommandFailure

Description

This event is generated when it is not possible to execute a direct command to a device; this may be because the device does not support this type of command.

Syntax

Sub EvNetworkCommandFailure(*handle As Long, address As BYTE, cmd As DAM_NETWORK_COMMAND, error As Long*)

Parameter	Type	Description
<i>handle</i>	Long	Handle to the network containing the device.
<i>address</i>	BYTE	Address of the device within the network.
<i>cmd</i>	DAM_NETWORK_COMMAND	Original command code.
<i>error</i>	Long	Error code: <ul style="list-style-type: none">• -1: error during the execution of the command.• -2: command not supported by the device.

EvNetworkInterfaceFound

Description

This event is generated when a network adapter is detected.

Syntax

Sub EvNetworkInterfaceFound(*handle As Long, info As UDTInstrumentInfo*)

Parameter	Type	Description
<i>handle</i>	Long	Handle to the network where the adapter is found.
<i>info</i>	UDTInstrumentInfo	Information about the identified network adapter.
<i>IDisabled</i>	Long	Flag that indicates that the interface is enabled or disabled

EvScanInstrumentsEnd

Description

This event is generated when the scan procedure on a network is ended.

Syntax

Sub EvScanInstrumentsEnd(*handle As Long*)

Parameter	Type	Description
<i>handle</i>	Long	Handle to the reference network.

EvSearchNetworkInterfaceEnd

Description

This event is generated when the verification for the presence of a network adapter on a COM port is ended.

Syntax

Sub EvSearchNetworkInterfaceEnd(*handle* As Long)

Parameter	Type	Description
<i>handle</i>	Long	Handle to the reference network.

PE01 n.a.

8. Appendix.

A. Alarm codes.

ID	DESCRIPTION
1000	EW_ALARM_ANALOG_1_HIGH
1001	EW_ALARM_ANALOG_2_HIGH
1002	EW_ALARM_ANALOG_3_HIGH
1003	EW_ALARM_ANALOG_4_HIGH
1004	EW_ALARM_ANALOG_5_HIGH
1005	EW_ALARM_ANALOG_6_HIGH
1006	EW_ALARM_ANALOG_7_HIGH
1007	EW_ALARM_ANALOG_8_HIGH
1008	EW_ALARM_ANALOG_9_HIGH
1009	EW_ALARM_ANALOG_10_HIGH
1010	EW_ALARM_ANALOG_11_HIGH
1011	EW_ALARM_ANALOG_12_HIGH
1012	EW_ALARM_ANALOG_13_HIGH
1013	EW_ALARM_ANALOG_14_HIGH
1014	EW_ALARM_ANALOG_15_HIGH
1015	EW_ALARM_ANALOG_16_HIGH
1016	EW_ALARM_ANALOG_17_HIGH
1017	EW_ALARM_ANALOG_18_HIGH
1018	EW_ALARM_ANALOG_19_HIGH
1019	EW_ALARM_ANALOG_20_HIGH
1020	EW_ALARM_ANALOG_21_HIGH
1021	EW_ALARM_ANALOG_22_HIGH
1022	EW_ALARM_ANALOG_23_HIGH
1023	EW_ALARM_ANALOG_24_HIGH
1024	EW_ALARM_ANALOG_25_HIGH
1025	EW_ALARM_ANALOG_26_HIGH
1026	EW_ALARM_ANALOG_27_HIGH
1027	EW_ALARM_ANALOG_28_HIGH
1028	EW_ALARM_ANALOG_29_HIGH
1029	EW_ALARM_ANALOG_30_HIGH
1030	EW_ALARM_ANALOG_31_HIGH
1031	EW_ALARM_ANALOG_32_HIGH
1032	EW_ALARM_ANALOG_33_HIGH
1033	EW_ALARM_ANALOG_34_HIGH
1034	EW_ALARM_ANALOG_35_HIGH
1035	EW_ALARM_ANALOG_36_HIGH
1036	EW_ALARM_ANALOG_37_HIGH
1037	EW_ALARM_ANALOG_38_HIGH
1038	EW_ALARM_ANALOG_39_HIGH
1039	EW_ALARM_ANALOG_40_HIGH
1040	EW_ALARM_ANALOG_41_HIGH
1041	EW_ALARM_ANALOG_42_HIGH
1042	EW_ALARM_ANALOG_43_HIGH
1043	EW_ALARM_ANALOG_44_HIGH
1044	EW_ALARM_ANALOG_45_HIGH
1045	EW_ALARM_ANALOG_46_HIGH
1046	EW_ALARM_ANALOG_47_HIGH
1047	EW_ALARM_ANALOG_48_HIGH
1048	EW_ALARM_ANALOG_49_HIGH
1049	EW_ALARM_ANALOG_50_HIGH
1050	EW_ALARM_ANALOG_51_HIGH
1051	EW_ALARM_ANALOG_52_HIGH
1052	EW_ALARM_ANALOG_53_HIGH
1053	EW_ALARM_ANALOG_54_HIGH
1054	EW_ALARM_ANALOG_55_HIGH
1055	EW_ALARM_ANALOG_56_HIGH
1056	EW_ALARM_ANALOG_57_HIGH
1057	EW_ALARM_ANALOG_58_HIGH
1058	EW_ALARM_ANALOG_59_HIGH
1059	EW_ALARM_ANALOG_60_HIGH
1060	EW_ALARM_ANALOG_61_HIGH
1061	EW_ALARM_ANALOG_62_HIGH
1062	EW_ALARM_ANALOG_63_HIGH
1063	EW_ALARM_ANALOG_64_HIGH
1064	EW_ALARM_ANALOG_65_HIGH
1065	EW_ALARM_ANALOG_66_HIGH
1066	EW_ALARM_ANALOG_67_HIGH
1067	EW_ALARM_ANALOG_68_HIGH
1068	EW_ALARM_ANALOG_69_HIGH
1069	EW_ALARM_ANALOG_70_HIGH
1070	EW_ALARM_ANALOG_71_HIGH
1071	EW_ALARM_ANALOG_72_HIGH
1072	EW_ALARM_ANALOG_73_HIGH
1073	EW_ALARM_ANALOG_74_HIGH
1074	EW_ALARM_ANALOG_75_HIGH
1075	EW_ALARM_ANALOG_76_HIGH
1076	EW_ALARM_ANALOG_77_HIGH
1077	EW_ALARM_ANALOG_78_HIGH
1078	EW_ALARM_ANALOG_79_HIGH
1079	EW_ALARM_ANALOG_80_HIGH
1080	EW_ALARM_ANALOG_81_HIGH
1081	EW_ALARM_ANALOG_82_HIGH
1082	EW_ALARM_ANALOG_83_HIGH
1083	EW_ALARM_ANALOG_84_HIGH
1084	EW_ALARM_ANALOG_85_HIGH
1085	EW_ALARM_ANALOG_86_HIGH
1086	EW_ALARM_ANALOG_87_HIGH
1087	EW_ALARM_ANALOG_88_HIGH
1088	EW_ALARM_ANALOG_89_HIGH
1089	EW_ALARM_ANALOG_90_HIGH
1090	EW_ALARM_ANALOG_91_HIGH
1091	EW_ALARM_ANALOG_92_HIGH
1092	EW_ALARM_ANALOG_93_HIGH

1093 EW_ALARM_ANALOG_94_HIGH	1145 EW_ALARM_ANALOG_46_LOW
1094 EW_ALARM_ANALOG_95_HIGH	1146 EW_ALARM_ANALOG_47_LOW
1095 EW_ALARM_ANALOG_96_HIGH	1147 EW_ALARM_ANALOG_48_LOW
1096 EW_ALARM_ANALOG_97_HIGH	1148 EW_ALARM_ANALOG_49_LOW
1097 EW_ALARM_ANALOG_98_HIGH	1149 EW_ALARM_ANALOG_50_LOW
1098 EW_ALARM_ANALOG_99_HIGH	1150 EW_ALARM_ANALOG_51_LOW
1099 EW_ALARM_ANALOG_100_HIGH	1151 EW_ALARM_ANALOG_52_LOW
1100 EW_ALARM_ANALOG_1_LOW	1152 EW_ALARM_ANALOG_53_LOW
1101 EW_ALARM_ANALOG_2_LOW	1153 EW_ALARM_ANALOG_54_LOW
1102 EW_ALARM_ANALOG_3_LOW	1154 EW_ALARM_ANALOG_55_LOW
1103 EW_ALARM_ANALOG_4_LOW	1155 EW_ALARM_ANALOG_56_LOW
1104 EW_ALARM_ANALOG_5_LOW	1156 EW_ALARM_ANALOG_57_LOW
1105 EW_ALARM_ANALOG_6_LOW	1157 EW_ALARM_ANALOG_58_LOW
1106 EW_ALARM_ANALOG_7_LOW	1158 EW_ALARM_ANALOG_59_LOW
1107 EW_ALARM_ANALOG_8_LOW	1159 EW_ALARM_ANALOG_60_LOW
1108 EW_ALARM_ANALOG_9_LOW	1160 EW_ALARM_ANALOG_61_LOW
1109 EW_ALARM_ANALOG_10_LOW	1161 EW_ALARM_ANALOG_62_LOW
1110 EW_ALARM_ANALOG_11_LOW	1162 EW_ALARM_ANALOG_63_LOW
1111 EW_ALARM_ANALOG_12_LOW	1163 EW_ALARM_ANALOG_64_LOW
1112 EW_ALARM_ANALOG_13_LOW	1164 EW_ALARM_ANALOG_65_LOW
1113 EW_ALARM_ANALOG_14_LOW	1165 EW_ALARM_ANALOG_66_LOW
1114 EW_ALARM_ANALOG_15_LOW	1166 EW_ALARM_ANALOG_67_LOW
1115 EW_ALARM_ANALOG_16_LOW	1167 EW_ALARM_ANALOG_68_LOW
1116 EW_ALARM_ANALOG_17_LOW	1168 EW_ALARM_ANALOG_69_LOW
1117 EW_ALARM_ANALOG_18_LOW	1169 EW_ALARM_ANALOG_70_LOW
1118 EW_ALARM_ANALOG_19_LOW	1170 EW_ALARM_ANALOG_71_LOW
1119 EW_ALARM_ANALOG_20_LOW	1171 EW_ALARM_ANALOG_72_LOW
1120 EW_ALARM_ANALOG_21_LOW	1172 EW_ALARM_ANALOG_73_LOW
1121 EW_ALARM_ANALOG_22_LOW	1173 EW_ALARM_ANALOG_74_LOW
1122 EW_ALARM_ANALOG_23_LOW	1174 EW_ALARM_ANALOG_75_LOW
1123 EW_ALARM_ANALOG_24_LOW	1175 EW_ALARM_ANALOG_76_LOW
1124 EW_ALARM_ANALOG_25_LOW	1176 EW_ALARM_ANALOG_77_LOW
1125 EW_ALARM_ANALOG_26_LOW	1177 EW_ALARM_ANALOG_78_LOW
1126 EW_ALARM_ANALOG_27_LOW	1178 EW_ALARM_ANALOG_79_LOW
1127 EW_ALARM_ANALOG_28_LOW	1179 EW_ALARM_ANALOG_80_LOW
1128 EW_ALARM_ANALOG_29_LOW	1180 EW_ALARM_ANALOG_81_LOW
1129 EW_ALARM_ANALOG_30_LOW	1181 EW_ALARM_ANALOG_82_LOW
1130 EW_ALARM_ANALOG_31_LOW	1182 EW_ALARM_ANALOG_83_LOW
1131 EW_ALARM_ANALOG_32_LOW	1183 EW_ALARM_ANALOG_84_LOW
1132 EW_ALARM_ANALOG_33_LOW	1184 EW_ALARM_ANALOG_85_LOW
1133 EW_ALARM_ANALOG_34_LOW	1185 EW_ALARM_ANALOG_86_LOW
1134 EW_ALARM_ANALOG_35_LOW	1186 EW_ALARM_ANALOG_87_LOW
1135 EW_ALARM_ANALOG_36_LOW	1187 EW_ALARM_ANALOG_88_LOW
1136 EW_ALARM_ANALOG_37_LOW	1188 EW_ALARM_ANALOG_89_LOW
1137 EW_ALARM_ANALOG_38_LOW	1189 EW_ALARM_ANALOG_90_LOW
1138 EW_ALARM_ANALOG_39_LOW	1190 EW_ALARM_ANALOG_91_LOW
1139 EW_ALARM_ANALOG_40_LOW	1191 EW_ALARM_ANALOG_92_LOW
1140 EW_ALARM_ANALOG_41_LOW	1192 EW_ALARM_ANALOG_93_LOW
1141 EW_ALARM_ANALOG_42_LOW	1193 EW_ALARM_ANALOG_94_LOW
1142 EW_ALARM_ANALOG_43_LOW	1194 EW_ALARM_ANALOG_95_LOW
1143 EW_ALARM_ANALOG_44_LOW	1195 EW_ALARM_ANALOG_96_LOW
1144 EW_ALARM_ANALOG_45_LOW	1196 EW_ALARM_ANALOG_97_LOW

1197 EW_ALARM_ANALOG_98_LOW	1249 EW_ALARM_ANALOG_50_FAULT
1198 EW_ALARM_ANALOG_99_LOW	1250 EW_ALARM_ANALOG_51_FAULT
1199 EW_ALARM_ANALOG_100_LOW	1251 EW_ALARM_ANALOG_52_FAULT
1200 EW_ALARM_ANALOG_1_FAULT	1252 EW_ALARM_ANALOG_53_FAULT
1201 EW_ALARM_ANALOG_2_FAULT	1253 EW_ALARM_ANALOG_54_FAULT
1202 EW_ALARM_ANALOG_3_FAULT	1254 EW_ALARM_ANALOG_55_FAULT
1203 EW_ALARM_ANALOG_4_FAULT	1255 EW_ALARM_ANALOG_56_FAULT
1204 EW_ALARM_ANALOG_5_FAULT	1256 EW_ALARM_ANALOG_57_FAULT
1205 EW_ALARM_ANALOG_6_FAULT	1257 EW_ALARM_ANALOG_58_FAULT
1206 EW_ALARM_ANALOG_7_FAULT	1258 EW_ALARM_ANALOG_59_FAULT
1207 EW_ALARM_ANALOG_8_FAULT	1259 EW_ALARM_ANALOG_60_FAULT
1208 EW_ALARM_ANALOG_9_FAULT	1260 EW_ALARM_ANALOG_61_FAULT
1209 EW_ALARM_ANALOG_10_FAULT	1261 EW_ALARM_ANALOG_62_FAULT
1210 EW_ALARM_ANALOG_11_FAULT	1262 EW_ALARM_ANALOG_63_FAULT
1211 EW_ALARM_ANALOG_12_FAULT	1263 EW_ALARM_ANALOG_64_FAULT
1212 EW_ALARM_ANALOG_13_FAULT	1264 EW_ALARM_ANALOG_65_FAULT
1213 EW_ALARM_ANALOG_14_FAULT	1265 EW_ALARM_ANALOG_66_FAULT
1214 EW_ALARM_ANALOG_15_FAULT	1266 EW_ALARM_ANALOG_67_FAULT
1215 EW_ALARM_ANALOG_16_FAULT	1267 EW_ALARM_ANALOG_68_FAULT
1216 EW_ALARM_ANALOG_17_FAULT	1268 EW_ALARM_ANALOG_69_FAULT
1217 EW_ALARM_ANALOG_18_FAULT	1269 EW_ALARM_ANALOG_70_FAULT
1218 EW_ALARM_ANALOG_19_FAULT	1270 EW_ALARM_ANALOG_71_FAULT
1219 EW_ALARM_ANALOG_20_FAULT	1271 EW_ALARM_ANALOG_72_FAULT
1220 EW_ALARM_ANALOG_21_FAULT	1272 EW_ALARM_ANALOG_73_FAULT
1221 EW_ALARM_ANALOG_22_FAULT	1273 EW_ALARM_ANALOG_74_FAULT
1222 EW_ALARM_ANALOG_23_FAULT	1274 EW_ALARM_ANALOG_75_FAULT
1223 EW_ALARM_ANALOG_24_FAULT	1275 EW_ALARM_ANALOG_76_FAULT
1224 EW_ALARM_ANALOG_25_FAULT	1276 EW_ALARM_ANALOG_77_FAULT
1225 EW_ALARM_ANALOG_26_FAULT	1277 EW_ALARM_ANALOG_78_FAULT
1226 EW_ALARM_ANALOG_27_FAULT	1278 EW_ALARM_ANALOG_79_FAULT
1227 EW_ALARM_ANALOG_28_FAULT	1279 EW_ALARM_ANALOG_80_FAULT
1228 EW_ALARM_ANALOG_29_FAULT	1280 EW_ALARM_ANALOG_81_FAULT
1229 EW_ALARM_ANALOG_30_FAULT	1281 EW_ALARM_ANALOG_82_FAULT
1230 EW_ALARM_ANALOG_31_FAULT	1282 EW_ALARM_ANALOG_83_FAULT
1231 EW_ALARM_ANALOG_32_FAULT	1283 EW_ALARM_ANALOG_84_FAULT
1232 EW_ALARM_ANALOG_33_FAULT	1284 EW_ALARM_ANALOG_85_FAULT
1233 EW_ALARM_ANALOG_34_FAULT	1285 EW_ALARM_ANALOG_86_FAULT
1234 EW_ALARM_ANALOG_35_FAULT	1286 EW_ALARM_ANALOG_87_FAULT
1235 EW_ALARM_ANALOG_36_FAULT	1287 EW_ALARM_ANALOG_88_FAULT
1236 EW_ALARM_ANALOG_37_FAULT	1288 EW_ALARM_ANALOG_89_FAULT
1237 EW_ALARM_ANALOG_38_FAULT	1289 EW_ALARM_ANALOG_90_FAULT
1238 EW_ALARM_ANALOG_39_FAULT	1290 EW_ALARM_ANALOG_91_FAULT
1239 EW_ALARM_ANALOG_40_FAULT	1291 EW_ALARM_ANALOG_92_FAULT
1240 EW_ALARM_ANALOG_41_FAULT	1292 EW_ALARM_ANALOG_93_FAULT
1241 EW_ALARM_ANALOG_42_FAULT	1293 EW_ALARM_ANALOG_94_FAULT
1242 EW_ALARM_ANALOG_43_FAULT	1294 EW_ALARM_ANALOG_95_FAULT
1243 EW_ALARM_ANALOG_44_FAULT	1295 EW_ALARM_ANALOG_96_FAULT
1244 EW_ALARM_ANALOG_45_FAULT	1296 EW_ALARM_ANALOG_97_FAULT
1245 EW_ALARM_ANALOG_46_FAULT	1297 EW_ALARM_ANALOG_98_FAULT
1246 EW_ALARM_ANALOG_47_FAULT	1298 EW_ALARM_ANALOG_99_FAULT
1247 EW_ALARM_ANALOG_48_FAULT	1299 EW_ALARM_ANALOG_100_FAULT
1248 EW_ALARM_ANALOG_49_FAULT	1300 EW_ALARM_DIGITAL_1

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1500 EW_ALARM_DIGITAL_FAN_1
1501 EW_ALARM_DIGITAL_FAN_2
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1550 EW_ALARM_DIGITAL_FAN_51	1602 EW_ALARM_HIGH_PRESSURE
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1553 EW_ALARM_DIGITAL_FAN_54	1605 EW_ALARM_MAINTENANCE
1554 EW_ALARM_DIGITAL_FAN_55	1606 EW_ALARM_POWER_FAILURE
1555 EW_ALARM_DIGITAL_FAN_56	1607 EW_ALARM_CRITICAL_FAULT
1556 EW_ALARM_DIGITAL_FAN_57	1608 EW_ALARM_DOOR_SWITCH
1557 EW_ALARM_DIGITAL_FAN_58	1609 EW_ALARM_DEFROST_TIMEOUT
1558 EW_ALARM_DIGITAL_FAN_59	1610 EW_ALARM_LOW_BATTERY
1559 EW_ALARM_DIGITAL_FAN_60	1611 EW_ALARM_SLAVE_COMMUNICATION
1560 EW_ALARM_DIGITAL_FAN_61	1612 EW_ALARM_INVALID_C_CARD

1613 EW_ALARM_GENERAL_PROBE
1614 EW_ALARM_FREQUENCY_SYNC
1615 EW_ALARM_CRITICAL_PRESSURE
1616 EW_ALARM_FAN_PRESSURE
1617 EW_ALARM_FAN_LOW_PRESSURE
1618 EW_ALARM_FAN_HIGH_PRESSURE
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1621 EW_ALARM_EXTERNAL
1622 EW_ALARM_SONDA_PRESS_ASPIRAZIONE
1623 EW_ALARM_SONDA_PRESS_CONDENSAZIONE
1624 EW_ALARM_SONDA_PRESS_LAMINAZIONE
1625 EW_ALARM_SONDA_MISURA_POTENZA
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1627 EW_ALARM_SONDA_TEMPER_CONDENSAZIONE
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1632 EW_ALARM_PRESSOSTATO
1633 EW_ALARM_PRESS_ASPIRAZIONE_LAMINAZIONE
1634 EW_ALARM_SURRISCALDAMENTO
1635 EW_ALARM_LIMITE_POTENZA
1336 EW_ALARM_PROTEZIONE_VENTOLE
1637 EW_ALARM_NOLINK
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1719 EW_ALARM_PRES_82

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1721	EW_ALARM_PRES_84	1775	EW_ALARM_PRES_LOW_38
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1744	EW_ALARM_PRES_LOW_7	1798	EW_ALARM_PRES_LOW_61
1745	EW_ALARM_PRES_LOW_8	1799	EW_ALARM_PRES_LOW_62
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1750	EW_ALARM_PRES_LOW_13	1804	EW_ALARM_PRES_LOW_67
1751	EW_ALARM_PRES_LOW_14	1805	EW_ALARM_PRES_LOW_68
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1760	EW_ALARM_PRES_LOW_23	1814	EW_ALARM_PRES_LOW_77
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1763	EW_ALARM_PRES_LOW_26	1817	EW_ALARM_PRES_LOW_80
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1765	EW_ALARM_PRES_LOW_28	1819	EW_ALARM_PRES_LOW_82
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1770	EW_ALARM_PRES_LOW_33	1824	EW_ALARM_PRES_LOW_87
1771	EW_ALARM_PRES_LOW_34	1825	EW_ALARM_PRES_LOW_88
1772	EW_ALARM_PRES_LOW_35	1826	EW_ALARM_PRES_LOW_89
1773	EW_ALARM_PRES_LOW_36	1827	EW_ALARM_PRES_LOW_90

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1829	EW_ALARM_PRES_LOW_92	1883	W_ALARM_PRES_HIGH_46
1830	EW_ALARM_PRES_LOW_93	1884	W_ALARM_PRES_HIGH_47
1831	EW_ALARM_PRES_LOW_94	1885	W_ALARM_PRES_HIGH_48
1832	EW_ALARM_PRES_LOW_95	1886	W_ALARM_PRES_HIGH_49
1833	EW_ALARM_PRES_LOW_96	1887	W_ALARM_PRES_HIGH_50
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1835	EW_ALARM_PRES_LOW_98	1889	W_ALARM_PRES_HIGH_52
1836	EW_ALARM_PRES_LOW_99	1890	W_ALARM_PRES_HIGH_53
1837	EW_ALARM_PRES_LOW_100	1891	W_ALARM_PRES_HIGH_54
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1839	W_ALARM_PRES_HIGH_2	1893	W_ALARM_PRES_HIGH_56
1840	W_ALARM_PRES_HIGH_3	1894	W_ALARM_PRES_HIGH_57
1841	W_ALARM_PRES_HIGH_4	1895	W_ALARM_PRES_HIGH_58
1842	W_ALARM_PRES_HIGH_5	1896	W_ALARM_PRES_HIGH_59
1843	W_ALARM_PRES_HIGH_6	1897	W_ALARM_PRES_HIGH_60
1844	W_ALARM_PRES_HIGH_7	1898	W_ALARM_PRES_HIGH_61
1845	W_ALARM_PRES_HIGH_8	1899	W_ALARM_PRES_HIGH_62
1846	W_ALARM_PRES_HIGH_9	1900	W_ALARM_PRES_HIGH_63
1847	W_ALARM_PRES_HIGH_10	1901	W_ALARM_PRES_HIGH_64
1848	W_ALARM_PRES_HIGH_11	1902	W_ALARM_PRES_HIGH_65
1849	W_ALARM_PRES_HIGH_12	1903	W_ALARM_PRES_HIGH_66
1850	W_ALARM_PRES_HIGH_13	1904	W_ALARM_PRES_HIGH_67
1851	W_ALARM_PRES_HIGH_14	1905	W_ALARM_PRES_HIGH_68
1852	W_ALARM_PRES_HIGH_15	1906	W_ALARM_PRES_HIGH_69
1853	W_ALARM_PRES_HIGH_16	1907	W_ALARM_PRES_HIGH_70
1854	W_ALARM_PRES_HIGH_17	1908	W_ALARM_PRES_HIGH_71
1855	W_ALARM_PRES_HIGH_18	1909	W_ALARM_PRES_HIGH_72
1856	W_ALARM_PRES_HIGH_19	1910	W_ALARM_PRES_HIGH_73
1857	W_ALARM_PRES_HIGH_20	1911	W_ALARM_PRES_HIGH_74
1858	W_ALARM_PRES_HIGH_21	1912	W_ALARM_PRES_HIGH_75
1859	W_ALARM_PRES_HIGH_22	1913	W_ALARM_PRES_HIGH_76
1860	W_ALARM_PRES_HIGH_23	1914	W_ALARM_PRES_HIGH_77
1861	W_ALARM_PRES_HIGH_24	1915	W_ALARM_PRES_HIGH_78
1862	W_ALARM_PRES_HIGH_25	1916	W_ALARM_PRES_HIGH_79
1863	W_ALARM_PRES_HIGH_26	1917	W_ALARM_PRES_HIGH_80
1864	W_ALARM_PRES_HIGH_27	1918	W_ALARM_PRES_HIGH_81
1865	W_ALARM_PRES_HIGH_28	1919	W_ALARM_PRES_HIGH_82
1866	W_ALARM_PRES_HIGH_29	1920	W_ALARM_PRES_HIGH_83
1867	W_ALARM_PRES_HIGH_30	1921	W_ALARM_PRES_HIGH_84
1868	W_ALARM_PRES_HIGH_31	1922	W_ALARM_PRES_HIGH_85
1869	W_ALARM_PRES_HIGH_32	1923	W_ALARM_PRES_HIGH_86
1870	W_ALARM_PRES_HIGH_33	1924	W_ALARM_PRES_HIGH_87
1871	W_ALARM_PRES_HIGH_34	1925	W_ALARM_PRES_HIGH_88
1872	W_ALARM_PRES_HIGH_35	1926	W_ALARM_PRES_HIGH_89
1873	W_ALARM_PRES_HIGH_36	1927	W_ALARM_PRES_HIGH_90
1874	W_ALARM_PRES_HIGH_37	1928	W_ALARM_PRES_HIGH_91
1875	W_ALARM_PRES_HIGH_38	1929	W_ALARM_PRES_HIGH_92
1876	W_ALARM_PRES_HIGH_39	1930	W_ALARM_PRES_HIGH_93
1877	W_ALARM_PRES_HIGH_40	1931	W_ALARM_PRES_HIGH_94
1878	W_ALARM_PRES_HIGH_41	1932	W_ALARM_PRES_HIGH_95
1879	W_ALARM_PRES_HIGH_42	1933	W_ALARM_PRES_HIGH_96
1880	W_ALARM_PRES_HIGH_43	1934	W_ALARM_PRES_HIGH_97
1881	W_ALARM_PRES_HIGH_44	1935	W_ALARM_PRES_HIGH_98

1936	W_ALARM_PRES_HIGH_99	1990	EW_ALARM_LOW_TEMP_CIRCUIT_53
1937	W_ALARM_PRES_HIGH_100	1991	EW_ALARM_LOW_TEMP_CIRCUIT_54
1938	EW_ALARM_LOW_TEMP_CIRCUIT_1	1992	EW_ALARM_LOW_TEMP_CIRCUIT_55
1939	EW_ALARM_LOW_TEMP_CIRCUIT_2	1993	EW_ALARM_LOW_TEMP_CIRCUIT_56
1940	EW_ALARM_LOW_TEMP_CIRCUIT_3	1994	EW_ALARM_LOW_TEMP_CIRCUIT_57
1941	EW_ALARM_LOW_TEMP_CIRCUIT_4	1995	EW_ALARM_LOW_TEMP_CIRCUIT_58
1942	EW_ALARM_LOW_TEMP_CIRCUIT_5	1996	EW_ALARM_LOW_TEMP_CIRCUIT_59
1943	EW_ALARM_LOW_TEMP_CIRCUIT_6	1997	EW_ALARM_LOW_TEMP_CIRCUIT_60
1944	EW_ALARM_LOW_TEMP_CIRCUIT_7	1998	EW_ALARM_LOW_TEMP_CIRCUIT_61
1945	EW_ALARM_LOW_TEMP_CIRCUIT_8	1999	EW_ALARM_LOW_TEMP_CIRCUIT_62
1946	EW_ALARM_LOW_TEMP_CIRCUIT_9	2000	EW_ALARM_LOW_TEMP_CIRCUIT_63
1947	EW_ALARM_LOW_TEMP_CIRCUIT_10	2001	EW_ALARM_LOW_TEMP_CIRCUIT_64
1948	EW_ALARM_LOW_TEMP_CIRCUIT_11	2002	EW_ALARM_LOW_TEMP_CIRCUIT_65
1949	EW_ALARM_LOW_TEMP_CIRCUIT_12	2003	EW_ALARM_LOW_TEMP_CIRCUIT_66
1950	EW_ALARM_LOW_TEMP_CIRCUIT_13	2004	EW_ALARM_LOW_TEMP_CIRCUIT_67
1951	EW_ALARM_LOW_TEMP_CIRCUIT_14	2005	EW_ALARM_LOW_TEMP_CIRCUIT_68
1952	EW_ALARM_LOW_TEMP_CIRCUIT_15	2006	EW_ALARM_LOW_TEMP_CIRCUIT_69
1953	EW_ALARM_LOW_TEMP_CIRCUIT_16	2007	EW_ALARM_LOW_TEMP_CIRCUIT_70
1954	EW_ALARM_LOW_TEMP_CIRCUIT_17	2008	EW_ALARM_LOW_TEMP_CIRCUIT_71
1955	EW_ALARM_LOW_TEMP_CIRCUIT_18	2009	EW_ALARM_LOW_TEMP_CIRCUIT_72
1956	EW_ALARM_LOW_TEMP_CIRCUIT_19	2010	EW_ALARM_LOW_TEMP_CIRCUIT_73
1957	EW_ALARM_LOW_TEMP_CIRCUIT_20	2011	EW_ALARM_LOW_TEMP_CIRCUIT_74
1958	EW_ALARM_LOW_TEMP_CIRCUIT_21	2012	EW_ALARM_LOW_TEMP_CIRCUIT_75
1959	EW_ALARM_LOW_TEMP_CIRCUIT_22	2013	EW_ALARM_LOW_TEMP_CIRCUIT_76
1960	EW_ALARM_LOW_TEMP_CIRCUIT_23	2014	EW_ALARM_LOW_TEMP_CIRCUIT_77
1961	EW_ALARM_LOW_TEMP_CIRCUIT_24	2015	EW_ALARM_LOW_TEMP_CIRCUIT_78
1962	EW_ALARM_LOW_TEMP_CIRCUIT_25	2016	EW_ALARM_LOW_TEMP_CIRCUIT_79
1963	EW_ALARM_LOW_TEMP_CIRCUIT_26	2017	EW_ALARM_LOW_TEMP_CIRCUIT_80
1964	EW_ALARM_LOW_TEMP_CIRCUIT_27	2018	EW_ALARM_LOW_TEMP_CIRCUIT_81
1965	EW_ALARM_LOW_TEMP_CIRCUIT_28	2019	EW_ALARM_LOW_TEMP_CIRCUIT_82
1966	EW_ALARM_LOW_TEMP_CIRCUIT_29	2020	EW_ALARM_LOW_TEMP_CIRCUIT_83
1967	EW_ALARM_LOW_TEMP_CIRCUIT_30	2021	EW_ALARM_LOW_TEMP_CIRCUIT_84
1968	EW_ALARM_LOW_TEMP_CIRCUIT_31	2022	EW_ALARM_LOW_TEMP_CIRCUIT_85
1969	EW_ALARM_LOW_TEMP_CIRCUIT_32	2023	EW_ALARM_LOW_TEMP_CIRCUIT_86
1970	EW_ALARM_LOW_TEMP_CIRCUIT_33	2024	EW_ALARM_LOW_TEMP_CIRCUIT_87
1971	EW_ALARM_LOW_TEMP_CIRCUIT_34	2025	EW_ALARM_LOW_TEMP_CIRCUIT_88
1972	EW_ALARM_LOW_TEMP_CIRCUIT_35	2026	EW_ALARM_LOW_TEMP_CIRCUIT_89
1973	EW_ALARM_LOW_TEMP_CIRCUIT_36	2027	EW_ALARM_LOW_TEMP_CIRCUIT_90
1974	EW_ALARM_LOW_TEMP_CIRCUIT_37	2028	EW_ALARM_LOW_TEMP_CIRCUIT_91
1975	EW_ALARM_LOW_TEMP_CIRCUIT_38	2029	EW_ALARM_LOW_TEMP_CIRCUIT_92
1976	EW_ALARM_LOW_TEMP_CIRCUIT_39	2030	EW_ALARM_LOW_TEMP_CIRCUIT_93
1977	EW_ALARM_LOW_TEMP_CIRCUIT_40	2031	EW_ALARM_LOW_TEMP_CIRCUIT_94
1978	EW_ALARM_LOW_TEMP_CIRCUIT_41	2032	EW_ALARM_LOW_TEMP_CIRCUIT_95
1979	EW_ALARM_LOW_TEMP_CIRCUIT_42	2033	EW_ALARM_LOW_TEMP_CIRCUIT_96
1980	EW_ALARM_LOW_TEMP_CIRCUIT_43	2034	EW_ALARM_LOW_TEMP_CIRCUIT_97
1981	EW_ALARM_LOW_TEMP_CIRCUIT_44	2035	EW_ALARM_LOW_TEMP_CIRCUIT_98
1982	EW_ALARM_LOW_TEMP_CIRCUIT_45	2036	EW_ALARM_LOW_TEMP_CIRCUIT_99
1983	EW_ALARM_LOW_TEMP_CIRCUIT_46	2037	EW_ALARM_LOW_TEMP_CIRCUIT_100
1984	EW_ALARM_LOW_TEMP_CIRCUIT_47	2038	EW_ALARM_REMOTE_ON_OFF
1985	EW_ALARM_LOW_TEMP_CIRCUIT_48	2039	EW_ALARM_MAX_PRES_CIRC_1
1986	EW_ALARM_LOW_TEMP_CIRCUIT_49	2040	EW_ALARM_MAX_PRES_CIRC_2
1987	EW_ALARM_LOW_TEMP_CIRCUIT_50	2041	EW_ALARM_MAX_PRES_CIRC_3
1988	EW_ALARM_LOW_TEMP_CIRCUIT_51	2042	EW_ALARM_MAX_PRES_CIRC_4
1989	EW_ALARM_LOW_TEMP_CIRCUIT_52	2043	EW_ALARM_MAX_PRES_CIRC_5

2044	EW_ALARM_MAX_PRES_CIRC_6
2045	EW_ALARM_MAX_PRES_CIRC_7
2046	EW_ALARM_MAX_PRES_CIRC_8
2047	EW_ALARM_MAX_PRES_CIRC_9
2048	EW_ALARM_MAX_PRES_CIRC_10
2049	EW_ALARM_MAX_PRES_CIRC_11
2050	EW_ALARM_MAX_PRES_CIRC_12
2051	EW_ALARM_MAX_PRES_CIRC_13
2052	EW_ALARM_MAX_PRES_CIRC_14
2053	EW_ALARM_MAX_PRES_CIRC_15
2054	EW_ALARM_MAX_PRES_CIRC_16
2055	EW_ALARM_MAX_PRES_CIRC_17
2056	EW_ALARM_MAX_PRES_CIRC_18
2057	EW_ALARM_MAX_PRES_CIRC_19
2058	EW_ALARM_MAX_PRES_CIRC_20
2059	EW_ALARM_MAX_PRES_CIRC_21
2060	EW_ALARM_MAX_PRES_CIRC_22
2061	EW_ALARM_MAX_PRES_CIRC_23
2062	EW_ALARM_MAX_PRES_CIRC_24
2063	EW_ALARM_MAX_PRES_CIRC_25
2064	EW_ALARM_MAX_PRES_CIRC_26
2065	EW_ALARM_MAX_PRES_CIRC_27
2066	EW_ALARM_MAX_PRES_CIRC_28
2067	EW_ALARM_MAX_PRES_CIRC_29
2068	EW_ALARM_MAX_PRES_CIRC_30
2069	EW_ALARM_MAX_PRES_CIRC_31
2070	EW_ALARM_MAX_PRES_CIRC_32
2071	EW_ALARM_MAX_PRES_CIRC_33
2072	EW_ALARM_MAX_PRES_CIRC_34
2073	EW_ALARM_MAX_PRES_CIRC_35
2074	EW_ALARM_MAX_PRES_CIRC_36
2075	EW_ALARM_MAX_PRES_CIRC_37
2076	EW_ALARM_MAX_PRES_CIRC_38
2077	EW_ALARM_MAX_PRES_CIRC_39
2078	EW_ALARM_MAX_PRES_CIRC_40
2079	EW_ALARM_MAX_PRES_CIRC_41
2080	EW_ALARM_MAX_PRES_CIRC_42
2081	EW_ALARM_MAX_PRES_CIRC_43
2082	EW_ALARM_MAX_PRES_CIRC_44
2083	EW_ALARM_MAX_PRES_CIRC_45
2084	EW_ALARM_MAX_PRES_CIRC_46
2085	EW_ALARM_MAX_PRES_CIRC_47
2086	EW_ALARM_MAX_PRES_CIRC_48
2087	EW_ALARM_MAX_PRES_CIRC_49
2088	EW_ALARM_MAX_PRES_CIRC_50
2089	EW_ALARM_MAX_PRES_CIRC_51
2090	EW_ALARM_MAX_PRES_CIRC_52
2091	EW_ALARM_MAX_PRES_CIRC_53
2092	EW_ALARM_MAX_PRES_CIRC_54
2093	EW_ALARM_MAX_PRES_CIRC_55
2094	EW_ALARM_MAX_PRES_CIRC_56
2095	EW_ALARM_MAX_PRES_CIRC_57
2096	EW_ALARM_MAX_PRES_CIRC_58
2097	EW_ALARM_MAX_PRES_CIRC_59
2098	EW_ALARM_MAX_PRES_CIRC_60
2099	EW_ALARM_MAX_PRES_CIRC_61
2100	EW_ALARM_MAX_PRES_CIRC_62
2101	EW_ALARM_MAX_PRES_CIRC_63
2102	EW_ALARM_MAX_PRES_CIRC_64
2103	EW_ALARM_MAX_PRES_CIRC_65
2104	EW_ALARM_MAX_PRES_CIRC_66
2105	EW_ALARM_MAX_PRES_CIRC_67
2106	EW_ALARM_MAX_PRES_CIRC_68
2107	EW_ALARM_MAX_PRES_CIRC_69
2108	EW_ALARM_MAX_PRES_CIRC_70
2109	EW_ALARM_MAX_PRES_CIRC_71
2110	EW_ALARM_MAX_PRES_CIRC_72
2111	EW_ALARM_MAX_PRES_CIRC_73
2112	EW_ALARM_MAX_PRES_CIRC_74
2113	EW_ALARM_MAX_PRES_CIRC_75
2114	EW_ALARM_MAX_PRES_CIRC_76
2115	EW_ALARM_MAX_PRES_CIRC_77
2116	EW_ALARM_MAX_PRES_CIRC_78
2117	EW_ALARM_MAX_PRES_CIRC_79
2118	EW_ALARM_MAX_PRES_CIRC_80
2119	EW_ALARM_MAX_PRES_CIRC_81
2120	EW_ALARM_MAX_PRES_CIRC_82
2121	EW_ALARM_MAX_PRES_CIRC_83
2122	EW_ALARM_MAX_PRES_CIRC_84
2123	EW_ALARM_MAX_PRES_CIRC_85
2124	EW_ALARM_MAX_PRES_CIRC_86
2125	EW_ALARM_MAX_PRES_CIRC_87
2126	EW_ALARM_MAX_PRES_CIRC_88
2127	EW_ALARM_MAX_PRES_CIRC_89
2128	EW_ALARM_MAX_PRES_CIRC_90
2129	EW_ALARM_MAX_PRES_CIRC_91
2130	EW_ALARM_MAX_PRES_CIRC_92
2131	EW_ALARM_MAX_PRES_CIRC_93
2132	EW_ALARM_MAX_PRES_CIRC_94
2133	EW_ALARM_MAX_PRES_CIRC_95
2134	EW_ALARM_MAX_PRES_CIRC_96
2135	EW_ALARM_MAX_PRES_CIRC_97
2136	EW_ALARM_MAX_PRES_CIRC_98
2137	EW_ALARM_MAX_PRES_CIRC_99
2138	EW_ALARM_MAX_PRES_CIRC_100
2139	EW_ALARM_MAX_PRES_DI_CIRC_1
2140	EW_ALARM_MAX_PRES_DI_CIRC_2
2141	EW_ALARM_MAX_PRES_DI_CIRC_3
2142	EW_ALARM_MAX_PRES_DI_CIRC_4
2143	EW_ALARM_MAX_PRES_DI_CIRC_5
2144	EW_ALARM_MAX_PRES_DI_CIRC_6
2145	EW_ALARM_MAX_PRES_DI_CIRC_7
2146	EW_ALARM_MAX_PRES_DI_CIRC_8
2147	EW_ALARM_MAX_PRES_DI_CIRC_9
2148	EW_ALARM_MAX_PRES_DI_CIRC_10
2149	EW_ALARM_MAX_PRES_DI_CIRC_11
2150	EW_ALARM_MAX_PRES_DI_CIRC_12
2151	EW_ALARM_MAX_PRES_DI_CIRC_13

2152	EW_ALARM_MAX_PRES_DI_CIRC_14
2153	EW_ALARM_MAX_PRES_DI_CIRC_15
2154	EW_ALARM_MAX_PRES_DI_CIRC_16
2155	EW_ALARM_MAX_PRES_DI_CIRC_17
2156	EW_ALARM_MAX_PRES_DI_CIRC_18
2157	EW_ALARM_MAX_PRES_DI_CIRC_19
2158	EW_ALARM_MAX_PRES_DI_CIRC_20
2159	EW_ALARM_MAX_PRES_DI_CIRC_21
2160	EW_ALARM_MAX_PRES_DI_CIRC_22
2161	EW_ALARM_MAX_PRES_DI_CIRC_23
2162	EW_ALARM_MAX_PRES_DI_CIRC_24
2163	EW_ALARM_MAX_PRES_DI_CIRC_25
2164	EW_ALARM_MAX_PRES_DI_CIRC_26
2165	EW_ALARM_MAX_PRES_DI_CIRC_27
2166	EW_ALARM_MAX_PRES_DI_CIRC_28
2167	EW_ALARM_MAX_PRES_DI_CIRC_29
2168	EW_ALARM_MAX_PRES_DI_CIRC_30
2169	EW_ALARM_MAX_PRES_DI_CIRC_31
2170	EW_ALARM_MAX_PRES_DI_CIRC_32
2171	EW_ALARM_MAX_PRES_DI_CIRC_33
2172	EW_ALARM_MAX_PRES_DI_CIRC_34
2173	EW_ALARM_MAX_PRES_DI_CIRC_35
2174	EW_ALARM_MAX_PRES_DI_CIRC_36
2175	EW_ALARM_MAX_PRES_DI_CIRC_37
2176	EW_ALARM_MAX_PRES_DI_CIRC_38
2177	EW_ALARM_MAX_PRES_DI_CIRC_39
2178	EW_ALARM_MAX_PRES_DI_CIRC_40
2179	EW_ALARM_MAX_PRES_DI_CIRC_41
2180	EW_ALARM_MAX_PRES_DI_CIRC_42
2181	EW_ALARM_MAX_PRES_DI_CIRC_43
2182	EW_ALARM_MAX_PRES_DI_CIRC_44
2183	EW_ALARM_MAX_PRES_DI_CIRC_45
2184	EW_ALARM_MAX_PRES_DI_CIRC_46
2185	EW_ALARM_MAX_PRES_DI_CIRC_47
2186	EW_ALARM_MAX_PRES_DI_CIRC_48
2187	EW_ALARM_MAX_PRES_DI_CIRC_49
2188	EW_ALARM_MAX_PRES_DI_CIRC_50
2189	EW_ALARM_MAX_PRES_DI_CIRC_51
2190	EW_ALARM_MAX_PRES_DI_CIRC_52
2191	EW_ALARM_MAX_PRES_DI_CIRC_53
2192	EW_ALARM_MAX_PRES_DI_CIRC_54
2193	EW_ALARM_MAX_PRES_DI_CIRC_55
2194	EW_ALARM_MAX_PRES_DI_CIRC_56
2195	EW_ALARM_MAX_PRES_DI_CIRC_57
2196	EW_ALARM_MAX_PRES_DI_CIRC_58
2197	EW_ALARM_MAX_PRES_DI_CIRC_59
2198	EW_ALARM_MAX_PRES_DI_CIRC_60
2199	EW_ALARM_MAX_PRES_DI_CIRC_61
2200	EW_ALARM_MAX_PRES_DI_CIRC_62
2201	EW_ALARM_MAX_PRES_DI_CIRC_63
2202	EW_ALARM_MAX_PRES_DI_CIRC_64
2203	EW_ALARM_MAX_PRES_DI_CIRC_65
2204	EW_ALARM_MAX_PRES_DI_CIRC_66
2205	EW_ALARM_MAX_PRES_DI_CIRC_67
2206	EW_ALARM_MAX_PRES_DI_CIRC_68
2207	EW_ALARM_MAX_PRES_DI_CIRC_69
2208	EW_ALARM_MAX_PRES_DI_CIRC_70
2209	EW_ALARM_MAX_PRES_DI_CIRC_71
2210	EW_ALARM_MAX_PRES_DI_CIRC_72
2211	EW_ALARM_MAX_PRES_DI_CIRC_73
2212	EW_ALARM_MAX_PRES_DI_CIRC_74
2213	EW_ALARM_MAX_PRES_DI_CIRC_75
2214	EW_ALARM_MAX_PRES_DI_CIRC_76
2215	EW_ALARM_MAX_PRES_DI_CIRC_77
2216	EW_ALARM_MAX_PRES_DI_CIRC_78
2217	EW_ALARM_MAX_PRES_DI_CIRC_79
2218	EW_ALARM_MAX_PRES_DI_CIRC_80
2219	EW_ALARM_MAX_PRES_DI_CIRC_81
2220	EW_ALARM_MAX_PRES_DI_CIRC_82
2221	EW_ALARM_MAX_PRES_DI_CIRC_83
2222	EW_ALARM_MAX_PRES_DI_CIRC_84
2223	EW_ALARM_MAX_PRES_DI_CIRC_85
2224	EW_ALARM_MAX_PRES_DI_CIRC_86
2225	EW_ALARM_MAX_PRES_DI_CIRC_87
2226	EW_ALARM_MAX_PRES_DI_CIRC_88
2227	EW_ALARM_MAX_PRES_DI_CIRC_89
2228	EW_ALARM_MAX_PRES_DI_CIRC_90
2229	EW_ALARM_MAX_PRES_DI_CIRC_91
2230	EW_ALARM_MAX_PRES_DI_CIRC_92
2231	EW_ALARM_MAX_PRES_DI_CIRC_93
2232	EW_ALARM_MAX_PRES_DI_CIRC_94
2233	EW_ALARM_MAX_PRES_DI_CIRC_95
2234	EW_ALARM_MAX_PRES_DI_CIRC_96
2235	EW_ALARM_MAX_PRES_DI_CIRC_97
2236	EW_ALARM_MAX_PRES_DI_CIRC_98
2237	EW_ALARM_MAX_PRES_DI_CIRC_99
2238	EW_ALARM_MAX_PRES_DI_CIRC_100
2239	EW_ALARM_MIN_PRES_CIRC_1
2240	EW_ALARM_MIN_PRES_CIRC_2
2241	EW_ALARM_MIN_PRES_CIRC_3
2242	EW_ALARM_MIN_PRES_CIRC_4
2243	EW_ALARM_MIN_PRES_CIRC_5
2244	EW_ALARM_MIN_PRES_CIRC_6
2245	EW_ALARM_MIN_PRES_CIRC_7
2246	EW_ALARM_MIN_PRES_CIRC_8
2247	EW_ALARM_MIN_PRES_CIRC_9
2248	EW_ALARM_MIN_PRES_CIRC_10
2249	EW_ALARM_MIN_PRES_CIRC_11
2250	EW_ALARM_MIN_PRES_CIRC_12
2251	EW_ALARM_MIN_PRES_CIRC_13
2252	EW_ALARM_MIN_PRES_CIRC_14
2253	EW_ALARM_MIN_PRES_CIRC_15
2254	EW_ALARM_MIN_PRES_CIRC_16
2255	EW_ALARM_MIN_PRES_CIRC_17
2256	EW_ALARM_MIN_PRES_CIRC_18
2257	EW_ALARM_MIN_PRES_CIRC_19
2258	EW_ALARM_MIN_PRES_CIRC_20
2259	EW_ALARM_MIN_PRES_CIRC_21

2260	EW_ALARM_MIN_PRES_CIRC_22
2261	EW_ALARM_MIN_PRES_CIRC_23
2262	EW_ALARM_MIN_PRES_CIRC_24
2263	EW_ALARM_MIN_PRES_CIRC_25
2264	EW_ALARM_MIN_PRES_CIRC_26
2265	EW_ALARM_MIN_PRES_CIRC_27
2266	EW_ALARM_MIN_PRES_CIRC_28
2267	EW_ALARM_MIN_PRES_CIRC_29
2268	EW_ALARM_MIN_PRES_CIRC_30
2269	EW_ALARM_MIN_PRES_CIRC_31
2270	EW_ALARM_MIN_PRES_CIRC_32
2271	EW_ALARM_MIN_PRES_CIRC_33
2272	EW_ALARM_MIN_PRES_CIRC_34
2273	EW_ALARM_MIN_PRES_CIRC_35
2274	EW_ALARM_MIN_PRES_CIRC_36
2275	EW_ALARM_MIN_PRES_CIRC_37
2276	EW_ALARM_MIN_PRES_CIRC_38
2277	EW_ALARM_MIN_PRES_CIRC_39
2278	EW_ALARM_MIN_PRES_CIRC_40
2279	EW_ALARM_MIN_PRES_CIRC_41
2280	EW_ALARM_MIN_PRES_CIRC_42
2281	EW_ALARM_MIN_PRES_CIRC_43
2282	EW_ALARM_MIN_PRES_CIRC_44
2283	EW_ALARM_MIN_PRES_CIRC_45
2284	EW_ALARM_MIN_PRES_CIRC_46
2285	EW_ALARM_MIN_PRES_CIRC_47
2286	EW_ALARM_MIN_PRES_CIRC_48
2287	EW_ALARM_MIN_PRES_CIRC_49
2288	EW_ALARM_MIN_PRES_CIRC_50
2289	EW_ALARM_MIN_PRES_CIRC_51
2290	EW_ALARM_MIN_PRES_CIRC_52
2291	EW_ALARM_MIN_PRES_CIRC_53
2292	EW_ALARM_MIN_PRES_CIRC_54
2293	EW_ALARM_MIN_PRES_CIRC_55
2294	EW_ALARM_MIN_PRES_CIRC_56
2295	EW_ALARM_MIN_PRES_CIRC_57
2296	EW_ALARM_MIN_PRES_CIRC_58
2297	EW_ALARM_MIN_PRES_CIRC_59
2298	EW_ALARM_MIN_PRES_CIRC_60
2299	EW_ALARM_MIN_PRES_CIRC_61
2300	EW_ALARM_MIN_PRES_CIRC_62
2301	EW_ALARM_MIN_PRES_CIRC_63
2302	EW_ALARM_MIN_PRES_CIRC_64
2303	EW_ALARM_MIN_PRES_CIRC_65
2304	EW_ALARM_MIN_PRES_CIRC_66
2305	EW_ALARM_MIN_PRES_CIRC_67
2306	EW_ALARM_MIN_PRES_CIRC_68
2307	EW_ALARM_MIN_PRES_CIRC_69
2308	EW_ALARM_MIN_PRES_CIRC_70
2309	EW_ALARM_MIN_PRES_CIRC_71
2310	EW_ALARM_MIN_PRES_CIRC_72
2311	EW_ALARM_MIN_PRES_CIRC_73
2312	EW_ALARM_MIN_PRES_CIRC_74
2313	EW_ALARM_MIN_PRES_CIRC_75
2314	EW_ALARM_MIN_PRES_CIRC_76
2315	EW_ALARM_MIN_PRES_CIRC_77
2316	EW_ALARM_MIN_PRES_CIRC_78
2317	EW_ALARM_MIN_PRES_CIRC_79
2318	EW_ALARM_MIN_PRES_CIRC_80
2319	EW_ALARM_MIN_PRES_CIRC_81
2320	EW_ALARM_MIN_PRES_CIRC_82
2321	EW_ALARM_MIN_PRES_CIRC_83
2322	EW_ALARM_MIN_PRES_CIRC_84
2323	EW_ALARM_MIN_PRES_CIRC_85
2324	EW_ALARM_MIN_PRES_CIRC_86
2325	EW_ALARM_MIN_PRES_CIRC_87
2326	EW_ALARM_MIN_PRES_CIRC_88
2327	EW_ALARM_MIN_PRES_CIRC_89
2328	EW_ALARM_MIN_PRES_CIRC_90
2329	EW_ALARM_MIN_PRES_CIRC_91
2330	EW_ALARM_MIN_PRES_CIRC_92
2331	EW_ALARM_MIN_PRES_CIRC_93
2332	EW_ALARM_MIN_PRES_CIRC_94
2333	EW_ALARM_MIN_PRES_CIRC_95
2334	EW_ALARM_MIN_PRES_CIRC_96
2335	EW_ALARM_MIN_PRES_CIRC_97
2336	EW_ALARM_MIN_PRES_CIRC_98
2337	EW_ALARM_MIN_PRES_CIRC_99
2338	EW_ALARM_MIN_PRES_CIRC_100
2339	EW_ALARM_MIN_PRES_DI_CIRC_1
2340	EW_ALARM_MIN_PRES_DI_CIRC_2
2341	EW_ALARM_MIN_PRES_DI_CIRC_3
2342	EW_ALARM_MIN_PRES_DI_CIRC_4
2343	EW_ALARM_MIN_PRES_DI_CIRC_5
2344	EW_ALARM_MIN_PRES_DI_CIRC_6
2345	EW_ALARM_MIN_PRES_DI_CIRC_7
2346	EW_ALARM_MIN_PRES_DI_CIRC_8
2347	EW_ALARM_MIN_PRES_DI_CIRC_9
2348	EW_ALARM_MIN_PRES_DI_CIRC_10
2349	EW_ALARM_MIN_PRES_DI_CIRC_11
2350	EW_ALARM_MIN_PRES_DI_CIRC_12
2351	EW_ALARM_MIN_PRES_DI_CIRC_13
2352	EW_ALARM_MIN_PRES_DI_CIRC_14
2353	EW_ALARM_MIN_PRES_DI_CIRC_15
2354	EW_ALARM_MIN_PRES_DI_CIRC_16
2355	EW_ALARM_MIN_PRES_DI_CIRC_17
2356	EW_ALARM_MIN_PRES_DI_CIRC_18
2357	EW_ALARM_MIN_PRES_DI_CIRC_19
2358	EW_ALARM_MIN_PRES_DI_CIRC_20
2359	EW_ALARM_MIN_PRES_DI_CIRC_21
2360	EW_ALARM_MIN_PRES_DI_CIRC_22
2361	EW_ALARM_MIN_PRES_DI_CIRC_23
2362	EW_ALARM_MIN_PRES_DI_CIRC_24
2363	EW_ALARM_MIN_PRES_DI_CIRC_25
2364	EW_ALARM_MIN_PRES_DI_CIRC_26
2365	EW_ALARM_MIN_PRES_DI_CIRC_27
2366	EW_ALARM_MIN_PRES_DI_CIRC_28
2367	EW_ALARM_MIN_PRES_DI_CIRC_29

2368	EW_ALARM_MIN_PRES_DI_CIRC_30
2369	EW_ALARM_MIN_PRES_DI_CIRC_31
2370	EW_ALARM_MIN_PRES_DI_CIRC_32
2371	EW_ALARM_MIN_PRES_DI_CIRC_33
2372	EW_ALARM_MIN_PRES_DI_CIRC_34
2373	EW_ALARM_MIN_PRES_DI_CIRC_35
2374	EW_ALARM_MIN_PRES_DI_CIRC_36
2375	EW_ALARM_MIN_PRES_DI_CIRC_37
2376	EW_ALARM_MIN_PRES_DI_CIRC_38
2377	EW_ALARM_MIN_PRES_DI_CIRC_39
2378	EW_ALARM_MIN_PRES_DI_CIRC_40
2379	EW_ALARM_MIN_PRES_DI_CIRC_41
2380	EW_ALARM_MIN_PRES_DI_CIRC_42
2381	EW_ALARM_MIN_PRES_DI_CIRC_43
2382	EW_ALARM_MIN_PRES_DI_CIRC_44
2383	EW_ALARM_MIN_PRES_DI_CIRC_45
2384	EW_ALARM_MIN_PRES_DI_CIRC_46
2385	EW_ALARM_MIN_PRES_DI_CIRC_47
2386	EW_ALARM_MIN_PRES_DI_CIRC_48
2387	EW_ALARM_MIN_PRES_DI_CIRC_49
2388	EW_ALARM_MIN_PRES_DI_CIRC_50
2389	EW_ALARM_MIN_PRES_DI_CIRC_51
2390	EW_ALARM_MIN_PRES_DI_CIRC_52
2391	EW_ALARM_MIN_PRES_DI_CIRC_53
2392	EW_ALARM_MIN_PRES_DI_CIRC_54
2393	EW_ALARM_MIN_PRES_DI_CIRC_55
2394	EW_ALARM_MIN_PRES_DI_CIRC_56
2395	EW_ALARM_MIN_PRES_DI_CIRC_57
2396	EW_ALARM_MIN_PRES_DI_CIRC_58
2397	EW_ALARM_MIN_PRES_DI_CIRC_59
2398	EW_ALARM_MIN_PRES_DI_CIRC_60
2399	EW_ALARM_MIN_PRES_DI_CIRC_61
2400	EW_ALARM_MIN_PRES_DI_CIRC_62
2401	EW_ALARM_MIN_PRES_DI_CIRC_63
2402	EW_ALARM_MIN_PRES_DI_CIRC_64
2403	EW_ALARM_MIN_PRES_DI_CIRC_65
2404	EW_ALARM_MIN_PRES_DI_CIRC_66
2405	EW_ALARM_MIN_PRES_DI_CIRC_67
2406	EW_ALARM_MIN_PRES_DI_CIRC_68
2407	EW_ALARM_MIN_PRES_DI_CIRC_69
2408	EW_ALARM_MIN_PRES_DI_CIRC_70
2409	EW_ALARM_MIN_PRES_DI_CIRC_71
2410	EW_ALARM_MIN_PRES_DI_CIRC_72
2411	EW_ALARM_MIN_PRES_DI_CIRC_73
2412	EW_ALARM_MIN_PRES_DI_CIRC_74
2413	EW_ALARM_MIN_PRES_DI_CIRC_75
2414	EW_ALARM_MIN_PRES_DI_CIRC_76
2415	EW_ALARM_MIN_PRES_DI_CIRC_77
2416	EW_ALARM_MIN_PRES_DI_CIRC_78
2417	EW_ALARM_MIN_PRES_DI_CIRC_79
2418	EW_ALARM_MIN_PRES_DI_CIRC_80
2419	EW_ALARM_MIN_PRES_DI_CIRC_81
2420	EW_ALARM_MIN_PRES_DI_CIRC_82
2421	EW_ALARM_MIN_PRES_DI_CIRC_83
2422	EW_ALARM_MIN_PRES_DI_CIRC_84
2423	EW_ALARM_MIN_PRES_DI_CIRC_85
2424	EW_ALARM_MIN_PRES_DI_CIRC_86
2425	EW_ALARM_MIN_PRES_DI_CIRC_87
2426	EW_ALARM_MIN_PRES_DI_CIRC_88
2427	EW_ALARM_MIN_PRES_DI_CIRC_89
2428	EW_ALARM_MIN_PRES_DI_CIRC_90
2429	EW_ALARM_MIN_PRES_DI_CIRC_91
2430	EW_ALARM_MIN_PRES_DI_CIRC_92
2431	EW_ALARM_MIN_PRES_DI_CIRC_93
2432	EW_ALARM_MIN_PRES_DI_CIRC_94
2433	EW_ALARM_MIN_PRES_DI_CIRC_95
2434	EW_ALARM_MIN_PRES_DI_CIRC_96
2435	EW_ALARM_MIN_PRES_DI_CIRC_97
2436	EW_ALARM_MIN_PRES_DI_CIRC_98
2437	EW_ALARM_MIN_PRES_DI_CIRC_99
2438	EW_ALARM_MIN_PRES_DI_CIRC_100
2439	EW_ALARM_DEFROST_CIRC_1
2440	EW_ALARM_DEFROST_CIRC_2
2441	EW_ALARM_DEFROST_CIRC_3
2442	EW_ALARM_DEFROST_CIRC_4
2443	EW_ALARM_DEFROST_CIRC_5
2444	EW_ALARM_DEFROST_CIRC_6
2445	EW_ALARM_DEFROST_CIRC_7
2446	EW_ALARM_DEFROST_CIRC_8
2447	EW_ALARM_DEFROST_CIRC_9
2448	EW_ALARM_DEFROST_CIRC_10
2449	EW_ALARM_DEFROST_CIRC_11
2450	EW_ALARM_DEFROST_CIRC_12
2451	EW_ALARM_DEFROST_CIRC_13
2452	EW_ALARM_DEFROST_CIRC_14
2453	EW_ALARM_DEFROST_CIRC_15
2454	EW_ALARM_DEFROST_CIRC_16
2455	EW_ALARM_DEFROST_CIRC_17
2456	EW_ALARM_DEFROST_CIRC_18
2457	EW_ALARM_DEFROST_CIRC_19
2458	EW_ALARM_DEFROST_CIRC_20
2459	EW_ALARM_DEFROST_CIRC_21
2460	EW_ALARM_DEFROST_CIRC_22
2461	EW_ALARM_DEFROST_CIRC_23
2462	EW_ALARM_DEFROST_CIRC_24
2463	EW_ALARM_DEFROST_CIRC_25
2464	EW_ALARM_DEFROST_CIRC_26
2465	EW_ALARM_DEFROST_CIRC_27
2466	EW_ALARM_DEFROST_CIRC_28
2467	EW_ALARM_DEFROST_CIRC_29
2468	EW_ALARM_DEFROST_CIRC_30
2469	EW_ALARM_DEFROST_CIRC_31
2470	EW_ALARM_DEFROST_CIRC_32
2471	EW_ALARM_DEFROST_CIRC_33
2472	EW_ALARM_DEFROST_CIRC_34
2473	EW_ALARM_DEFROST_CIRC_35
2474	EW_ALARM_DEFROST_CIRC_36
2475	EW_ALARM_DEFROST_CIRC_37

2476	EW_ALARM_DEFROST_CIRC_38
2477	EW_ALARM_DEFROST_CIRC_39
2478	EW_ALARM_DEFROST_CIRC_40
2479	EW_ALARM_DEFROST_CIRC_41
2480	EW_ALARM_DEFROST_CIRC_42
2481	EW_ALARM_DEFROST_CIRC_43
2482	EW_ALARM_DEFROST_CIRC_44
2483	EW_ALARM_DEFROST_CIRC_45
2484	EW_ALARM_DEFROST_CIRC_46
2485	EW_ALARM_DEFROST_CIRC_47
2486	EW_ALARM_DEFROST_CIRC_48
2487	EW_ALARM_DEFROST_CIRC_49
2488	EW_ALARM_DEFROST_CIRC_50
2489	EW_ALARM_DEFROST_CIRC_51
2490	EW_ALARM_DEFROST_CIRC_52
2491	EW_ALARM_DEFROST_CIRC_53
2492	EW_ALARM_DEFROST_CIRC_54
2493	EW_ALARM_DEFROST_CIRC_55
2494	EW_ALARM_DEFROST_CIRC_56
2495	EW_ALARM_DEFROST_CIRC_57
2496	EW_ALARM_DEFROST_CIRC_58
2497	EW_ALARM_DEFROST_CIRC_59
2498	EW_ALARM_DEFROST_CIRC_60
2499	EW_ALARM_DEFROST_CIRC_61
2500	EW_ALARM_DEFROST_CIRC_62
2501	EW_ALARM_DEFROST_CIRC_63
2502	EW_ALARM_DEFROST_CIRC_64
2503	EW_ALARM_DEFROST_CIRC_65
2504	EW_ALARM_DEFROST_CIRC_66
2505	EW_ALARM_DEFROST_CIRC_67
2506	EW_ALARM_DEFROST_CIRC_68
2507	EW_ALARM_DEFROST_CIRC_69
2508	EW_ALARM_DEFROST_CIRC_70
2509	EW_ALARM_DEFROST_CIRC_71
2510	EW_ALARM_DEFROST_CIRC_72
2511	EW_ALARM_DEFROST_CIRC_73
2512	EW_ALARM_DEFROST_CIRC_74
2513	EW_ALARM_DEFROST_CIRC_75

2514	EW_ALARM_DEFROST_CIRC_76
2515	EW_ALARM_DEFROST_CIRC_77
2516	EW_ALARM_DEFROST_CIRC_78
2517	EW_ALARM_DEFROST_CIRC_79
2518	EW_ALARM_DEFROST_CIRC_80
2519	EW_ALARM_DEFROST_CIRC_81
2520	EW_ALARM_DEFROST_CIRC_82
2521	EW_ALARM_DEFROST_CIRC_83
2522	EW_ALARM_DEFROST_CIRC_84
2523	EW_ALARM_DEFROST_CIRC_85
2524	EW_ALARM_DEFROST_CIRC_86
2525	EW_ALARM_DEFROST_CIRC_87
2526	EW_ALARM_DEFROST_CIRC_88
2527	EW_ALARM_DEFROST_CIRC_89
2528	EW_ALARM_DEFROST_CIRC_90
2529	EW_ALARM_DEFROST_CIRC_91
2530	EW_ALARM_DEFROST_CIRC_92
2531	EW_ALARM_DEFROST_CIRC_93
2532	EW_ALARM_DEFROST_CIRC_94
2533	EW_ALARM_DEFROST_CIRC_95
2534	EW_ALARM_DEFROST_CIRC_96
2535	EW_ALARM_DEFROST_CIRC_97
2536	EW_ALARM_DEFROST_CIRC_98
2537	EW_ALARM_DEFROST_CIRC_99
2538	EW_ALARM_DEFROST_CIRC_100
2539	EW_ALARM_HIGH_IN_TEMP
2540	EW_ALARM_EXT_UNLOCK
2541	EW_ALARM_EXT_LOCK

B. State codes

ID	DESCRIPTION
0	EW_STATE_FAN_1
1	EW_STATE_FAN_2
2	EW_STATE_FAN_3
3	EW_STATE_FAN_4
4	EW_STATE_FAN_5
5	EW_STATE_FAN_6
6	EW_STATE_FAN_7
7	EW_STATE_FAN_8
8	EW_STATE_FAN_9
9	EW_STATE_FAN_10
10	EW_STATE_FAN_11
11	EW_STATE_FAN_12
12	EW_STATE_FAN_13
13	EW_STATE_FAN_14
14	EW_STATE_FAN_15
15	EW_STATE_FAN_16
16	EW_STATE_FAN_17
17	EW_STATE_FAN_18
18	EW_STATE_FAN_19
19	EW_STATE_FAN_20
20	EW_STATE_FAN_21
21	EW_STATE_FAN_22
22	EW_STATE_FAN_23
23	EW_STATE_FAN_24
24	EW_STATE_FAN_25
25	EW_STATE_FAN_26
26	EW_STATE_FAN_27
27	EW_STATE_FAN_28
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33	EW_STATE_FAN_34
34	EW_STATE_FAN_35
35	EW_STATE_FAN_36
36	EW_STATE_FAN_37
37	EW_STATE_FAN_38
38	EW_STATE_FAN_39
39	EW_STATE_FAN_40
40	EW_STATE_FAN_41
41	EW_STATE_FAN_42
42	EW_STATE_FAN_43
43	EW_STATE_FAN_44
44	EW_STATE_FAN_45
45	EW_STATE_FAN_46
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47	EW_STATE_FAN_48
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61	EW_STATE_FAN_62
62	EW_STATE_FAN_63
63	EW_STATE_FAN_64
64	EW_STATE_FAN_65
65	EW_STATE_FAN_66
66	EW_STATE_FAN_67
67	EW_STATE_FAN_68
68	EW_STATE_FAN_69
69	EW_STATE_FAN_70
70	EW_STATE_FAN_71
71	EW_STATE_FAN_72
72	EW_STATE_FAN_73
73	EW_STATE_FAN_74
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75	EW_STATE_FAN_76
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77	EW_STATE_FAN_78
78	EW_STATE_FAN_79
79	EW_STATE_FAN_80
80	EW_STATE_FAN_81
81	EW_STATE_FAN_82
82	EW_STATE_FAN_83
83	EW_STATE_FAN_84
84	EW_STATE_FAN_85
85	EW_STATE_FAN_86
86	EW_STATE_FAN_87
87	EW_STATE_FAN_88
88	EW_STATE_FAN_89
89	EW_STATE_FAN_90
90	EW_STATE_FAN_91
91	EW_STATE_FAN_92
92	EW_STATE_FAN_93
93	EW_STATE_FAN_94
94	EW_STATE_FAN_95
95	EW_STATE_FAN_96
96	EW_STATE_FAN_97

97 EW_STATE_FAN_98	149 EW_STATE_COMPRESSOR_50
98 EW_STATE_FAN_99	150 EW_STATE_COMPRESSOR_51
99 EW_STATE_FAN_100	151 EW_STATE_COMPRESSOR_52
100 EW_STATE_COMPRESSOR_1	152 EW_STATE_COMPRESSOR_53
101 EW_STATE_COMPRESSOR_2	153 EW_STATE_COMPRESSOR_54
102 EW_STATE_COMPRESSOR_3	154 EW_STATE_COMPRESSOR_55
103 EW_STATE_COMPRESSOR_4	155 EW_STATE_COMPRESSOR_56
104 EW_STATE_COMPRESSOR_5	156 EW_STATE_COMPRESSOR_57
105 EW_STATE_COMPRESSOR_6	157 EW_STATE_COMPRESSOR_58
106 EW_STATE_COMPRESSOR_7	158 EW_STATE_COMPRESSOR_59
107 EW_STATE_COMPRESSOR_8	159 EW_STATE_COMPRESSOR_60
108 EW_STATE_COMPRESSOR_9	160 EW_STATE_COMPRESSOR_61
109 EW_STATE_COMPRESSOR_10	161 EW_STATE_COMPRESSOR_62
110 EW_STATE_COMPRESSOR_11	162 EW_STATE_COMPRESSOR_63
111 EW_STATE_COMPRESSOR_12	163 EW_STATE_COMPRESSOR_64
112 EW_STATE_COMPRESSOR_13	164 EW_STATE_COMPRESSOR_65
113 EW_STATE_COMPRESSOR_14	165 EW_STATE_COMPRESSOR_66
114 EW_STATE_COMPRESSOR_15	166 EW_STATE_COMPRESSOR_67
115 EW_STATE_COMPRESSOR_16	167 EW_STATE_COMPRESSOR_68
116 EW_STATE_COMPRESSOR_17	168 EW_STATE_COMPRESSOR_69
117 EW_STATE_COMPRESSOR_18	169 EW_STATE_COMPRESSOR_70
118 EW_STATE_COMPRESSOR_19	170 EW_STATE_COMPRESSOR_71
119 EW_STATE_COMPRESSOR_20	171 EW_STATE_COMPRESSOR_72
120 EW_STATE_COMPRESSOR_21	172 EW_STATE_COMPRESSOR_73
121 EW_STATE_COMPRESSOR_22	173 EW_STATE_COMPRESSOR_74
122 EW_STATE_COMPRESSOR_23	174 EW_STATE_COMPRESSOR_75
123 EW_STATE_COMPRESSOR_24	175 EW_STATE_COMPRESSOR_76
124 EW_STATE_COMPRESSOR_25	176 EW_STATE_COMPRESSOR_77
125 EW_STATE_COMPRESSOR_26	177 EW_STATE_COMPRESSOR_78
126 EW_STATE_COMPRESSOR_27	178 EW_STATE_COMPRESSOR_79
127 EW_STATE_COMPRESSOR_28	179 EW_STATE_COMPRESSOR_80
128 EW_STATE_COMPRESSOR_29	180 EW_STATE_COMPRESSOR_81
129 EW_STATE_COMPRESSOR_30	181 EW_STATE_COMPRESSOR_82
130 EW_STATE_COMPRESSOR_31	182 EW_STATE_COMPRESSOR_83
131 EW_STATE_COMPRESSOR_32	183 EW_STATE_COMPRESSOR_84
132 EW_STATE_COMPRESSOR_33	184 EW_STATE_COMPRESSOR_85
133 EW_STATE_COMPRESSOR_34	185 EW_STATE_COMPRESSOR_86
134 EW_STATE_COMPRESSOR_35	186 EW_STATE_COMPRESSOR_87
135 EW_STATE_COMPRESSOR_36	187 EW_STATE_COMPRESSOR_88
136 EW_STATE_COMPRESSOR_37	188 EW_STATE_COMPRESSOR_89
137 EW_STATE_COMPRESSOR_38	189 EW_STATE_COMPRESSOR_90
138 EW_STATE_COMPRESSOR_39	190 EW_STATE_COMPRESSOR_91
139 EW_STATE_COMPRESSOR_40	191 EW_STATE_COMPRESSOR_92
140 EW_STATE_COMPRESSOR_41	192 EW_STATE_COMPRESSOR_93
141 EW_STATE_COMPRESSOR_42	193 EW_STATE_COMPRESSOR_94
142 EW_STATE_COMPRESSOR_43	194 EW_STATE_COMPRESSOR_95
143 EW_STATE_COMPRESSOR_44	195 EW_STATE_COMPRESSOR_96
144 EW_STATE_COMPRESSOR_45	196 EW_STATE_COMPRESSOR_97
145 EW_STATE_COMPRESSOR_46	197 EW_STATE_COMPRESSOR_98
146 EW_STATE_COMPRESSOR_47	198 EW_STATE_COMPRESSOR_99
147 EW_STATE_COMPRESSOR_48	199 EW_STATE_COMPRESSOR_100
148 EW_STATE_COMPRESSOR_49	200 EW_STATE_DEFROST_1

201 EW_STATE_DEFROST_2	253 EW_STATE_DEFROST_54
202 EW_STATE_DEFROST_3	254 EW_STATE_DEFROST_55
203 EW_STATE_DEFROST_4	255 EW_STATE_DEFROST_56
204 EW_STATE_DEFROST_5	256 EW_STATE_DEFROST_57
205 EW_STATE_DEFROST_6	257 EW_STATE_DEFROST_58
206 EW_STATE_DEFROST_7	258 EW_STATE_DEFROST_59
207 EW_STATE_DEFROST_8	259 EW_STATE_DEFROST_60
208 EW_STATE_DEFROST_9	260 EW_STATE_DEFROST_61
209 EW_STATE_DEFROST_10	261 EW_STATE_DEFROST_62
210 EW_STATE_DEFROST_11	262 EW_STATE_DEFROST_63
211 EW_STATE_DEFROST_12	263 EW_STATE_DEFROST_64
212 EW_STATE_DEFROST_13	264 EW_STATE_DEFROST_65
213 EW_STATE_DEFROST_14	265 EW_STATE_DEFROST_66
214 EW_STATE_DEFROST_15	266 EW_STATE_DEFROST_67
215 EW_STATE_DEFROST_16	267 EW_STATE_DEFROST_68
216 EW_STATE_DEFROST_17	268 EW_STATE_DEFROST_69
217 EW_STATE_DEFROST_18	269 EW_STATE_DEFROST_70
218 EW_STATE_DEFROST_19	270 EW_STATE_DEFROST_71
219 EW_STATE_DEFROST_20	271 EW_STATE_DEFROST_72
220 EW_STATE_DEFROST_21	272 EW_STATE_DEFROST_73
221 EW_STATE_DEFROST_22	273 EW_STATE_DEFROST_74
222 EW_STATE_DEFROST_23	274 EW_STATE_DEFROST_75
223 EW_STATE_DEFROST_24	275 EW_STATE_DEFROST_76
224 EW_STATE_DEFROST_25	276 EW_STATE_DEFROST_77
225 EW_STATE_DEFROST_26	277 EW_STATE_DEFROST_78
226 EW_STATE_DEFROST_27	278 EW_STATE_DEFROST_79
227 EW_STATE_DEFROST_28	279 EW_STATE_DEFROST_80
228 EW_STATE_DEFROST_29	280 EW_STATE_DEFROST_81
229 EW_STATE_DEFROST_30	281 EW_STATE_DEFROST_82
230 EW_STATE_DEFROST_31	282 EW_STATE_DEFROST_83
231 EW_STATE_DEFROST_32	283 EW_STATE_DEFROST_84
232 EW_STATE_DEFROST_33	284 EW_STATE_DEFROST_85
233 EW_STATE_DEFROST_34	285 EW_STATE_DEFROST_86
234 EW_STATE_DEFROST_35	286 EW_STATE_DEFROST_87
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236 EW_STATE_DEFROST_37	288 EW_STATE_DEFROST_89
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761	EW_STATE_PUMP_50	812	EW_STATE_FAN_MODE
762	EW_STATE_PUMP_51	813	EW_STATE_DEFROST_RES
763	EW_STATE_PUMP_52	814	EW_STATE_FREE_COOLING
764	EW_STATE_PUMP_53	815	EW_STATE_MAX_SPEED_FAN
765	EW_STATE_PUMP_54	816	EW_STATE_MED_SPEED_FAN
766	EW_STATE_PUMP_55	817	EW_STATE_MIN_SPEED_FAN
767	EW_STATE_PUMP_56	818	EW_STATE_VALVE_1
768	EW_STATE_PUMP_57	819	EW_STATE_VALVE_2
769	EW_STATE_PUMP_58	820	EW_STATE_RESISTORS
770	EW_STATE_PUMP_59	821	EW_STATE_HOT_START
771	EW_STATE_PUMP_60	822	EW_STATE_TOO_COOL
772	EW_STATE_PUMP_61	823	EW_STATE_HEAT
773	EW_STATE_PUMP_62	824	EW_STATE_COOL
774	EW_STATE_PUMP_63	825	EW_STATE_FANS
775	EW_STATE_PUMP_64	826	EW_STATE_ECONOMY_FUNC
776	EW_STATE_PUMP_65	827	EW_STATE_PERIODIC_FAN
777	EW_STATE_PUMP_66	828	EW_STATE_SLIDER_MAX_SPEED_FAN
778	EW_STATE_PUMP_67	829	EW_STATE_SLIDER_MED_SPEED_FAN
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781	EW_STATE_PUMP_70	832	EW_STATE_TIMER
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787	EW_STATE_PUMP_76		
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790	EW_STATE_PUMP_79		

C. System requirements

	Minimum	Recommended	Notes
Operative system	Windows 2000+SP2 Windows XP Home+SP1 Windows XP Pro+SP1	Windows 2000+SP2 or later	
CPU	Pentium 200 Mhz	Pentium > 200Mhz	
HD (free space)	10 MB	> 8 GB	
Ram	64 MB	128 MB or more	Memory size depends on number of networks and connected devices.
COM ports	1 COM port for each network	1 COM ports for each network	Independent IRQ for each COM port.
Serial interface RS-23/RS-485	Eliwell PCInterface 1100 series Eliwell PCInterface 2500 series	Eliwell PCInterface 1110 or Eliwell PCInterface 2150	One PCInterface for each network
SoftGate license	SoftGate license	SoftGate license	One license for each network. In a PC with more than one network it is necessary at least one SoftGate license (for the first network) and a number of Extension licenses for all other networks.