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Ethernet communication for Blue e Chiller and VX25 Chiller





ENCLOSURES

POWER DISTRIBUTION CLIMATE CONTROL

IT INFRASTRUCTURE > SOFTWARE & SERVICES

FRIEDHELM LOH GROUP

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1 WEB Server

1. WEB server

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For a supervision of the machine even remotely in the controller is integrated a WEB interface with customized pages. In these pages you can view the progress of the machine, customize some parameters and check the machine alarms.

1.1 First access and main menu

To connect to the dedicated WEB server first of all make sure that the controller is connected to the local network via the Ethernet-LAN port directly on the card.



Once connected, enter the "*IP address/Rittal/Index.html*" address in the browser and replace IP-address with the local IP address of the controller.

(default setting → DHCP)

If the connection is successful, the first page that will appear will be the following login page. The data for the first access are:

- Username: admin
- Password: admin



Once logged in, the login will last 30 min.; then you will need to re-enter the credentials.



Once logged in you will be redirected to the corresponding homepage.



2. Machine Information

In this box are displayed different information on the operation of the machine and some parameters that are only viewable.

SK : 33364	10				Link to commissioning
Machine Configuration	*	n° 0			N° Machine configuration (not modifiable)
Unit Status	٢	OFF			Machine status ON/OFF (editable)
OUT Temperature	1	28.7 °	С		
IN Temperature		°(с		Real-time temperature probes on the machine
Ambient Temperature		15.7 °	С		
AntiFreeze Temperature	2				
Compressor Status	9	OFF		-	
Pump Status		OFF		\rightarrow	Status of current compressors, pumps, fans
Fans Status	8	OFF		Ĺ	
Setpoint	×.	18.0 °	с	ľ	
Setpoint (Actual)		18.0 °	с	\rightarrow	Main setpoints and modes of operation (viewable only)
Operating Mode		ABS		i.	
Other Info & O	ptiona	1			
					Unavailable → To be implemented

To change the status of the machine in ON/OFF you have to click the Unit Status icon 0 (off) 0 (on), when the following page will show up click the box and confirm with the checkmark.





To turn on / off the machine you have to click the box and then confirm with the check.

3. Menu bar

ΕN

3.1 Homepage

Homepage addressing

3.2 Main setup

In the main setup there are some main parameters of the machine. To access the pin is **2 2**. To change the parameters simply change the current values and confirm with the checkmark to set them on the machine.



To turn on / off the machine you have to click the box and then confirm with the check.



3.3 Advanced Setup

The advanced setup allows you to view the configuration of the machine. To access the pin is 111.





Ethernet communication for Blue e Chiller and VX 25 Chiller

3.4 Details Machine

The Details Machine menu provides additional model information and machine details.

ι	User Details					
	[DETAILS				
Name		KRAE-TTC3 Chiller				
Location		Customer Site				
Contact		service@rittal.de				
Model SK		3336410				
Serial Number		2022 K 000057774				
Manufacturing Da	ate:	26 04 2022				
÷		v v				

3.5 Manufacturer

In the manufacturer menu you can vary certain machine parameters (you do not need to turn off the machine to change them but it is recommended). This parameters change the operation of the machine, including valves and alarm management

	P/	AF	AMETERS		
ž	MAIN SETPOINT		New Value		(211)
	Setpoint (Abs/Comp)		18.0	°C	
	Setpoint (Diff)		-2.0	°C	
	Mode Regulation		ABS 🗸		
	Hysteresys		2.0	°C	
	Min. Set.		10.0	°C	
	Max. Set.		25.0	°C	
	Ps1 Amb. Set.		10.0	°C	
	pHc max.Set.REL		25.0	°C	
	pLc min.Set.REL		10.0	°C	
	Pce Slope		1.0	°C	
r	TEMP ALARM		New Value		(23.1 ·)
	Max. temp. ABS		40.0	°C	
	Min. temp. ABS		8.0	°C	
	Min/Max temp. ABS		5.0	°C	
	Delay alarm		10	sec	
	Reg.Mode (Abs/Rel)	:	ABS 🗸		
1*	ANTIFREEZE		New Value		· (~ 23.1 [°] .).
	Setpoint		-3.0	°C	
	Hysteresis	:	3.0	°C	
R	HGBP BY-PASS		New Value		(~23,1 ¹ .)
	Setpoint ABS		10.5	°C	
	Setpoint REL		1.0	°C	
	Hysteresis		0.3	°C	
	Reg.Mode (Abs/Rel)		REL 🗸		
	Offset bypass		1.0	°C	
	Ti bypass		150	sec	
١	PRE-HEATER		New Value		.(23.1).





3.7 Configuration

In the configuration section there is several information and features that will be explored in more detail in chapter 5

Nelwork
100p
gelen
Cenoca Cenocation Contract Contract Contract
Coding Stylen
10 configuration
G

3 Menu bar

To access the various sections for the first access it is necessary to enter the following credential

- username: admin
- password: admin



TCP / IP

Network				
М ТСРИР				
System				
			x	
Cooling Sectors	= * • 0 3		c.field	
	🖩 Sysken	Application	System	
General Configuration	🖵 p901	Name SW037		
	Alarrs	Version 1.0.006	O9 #48.003	
		Configuration P8_SW037Vb-1 Current cycle time 44 ms	Core type 2 Controller type uPC3	
	"L unt	Max cycle time 1027 ms	Controller type uPC3 Board type Medium	
÷	🖉 Log		MAC 00-04-50-01-18-50	
			UID 000100800003217A Tera C461C560	
	Variables	Memory	Pupes -	
	Parameters			
		Type Size [MB] Free [MB]		
	 Upgrade 	RAM 14.5 13.1	Network	
	O Clock			
		Type Size [MB] Free [MB]	Hostname	
	Web interface	The second contract	-0 ·	

Details

Network			
ТСРий			
dynium			
Details Detailing Depire V Provers			
Couring System	Oetails		x
	= * 0	c	
Or General Configuration		a 8.	i
	Analog inp	d	
(Pin	B1	
M	Type Name	Carel NTC AnUniv1.Val_HW	
	Description Value	AIN - Universal 1 - Value hardware 28.69	
	Pin Type	B2 Canel NTC	
	Name	AnUniv2.Val_H/I	

Date / Time

Network		
TCRIP		
System		
Details Defaultion	Constant Config	
Cooling System	= କ ଭୂ ପ	
General	System Clock	
IOM cartigueston	Device local time	Tue, Jun 20, 2022 10:43:13 PM
		Sync with pc lime
←	Mode	Marcal -
_	Timezone	(UTC+01.00) Amsterdam, Berlin, Bern, Rome, Stockholm, V •
	Server 1	
	Server 2	
		Save

Display

Solvadi.		
Толи		
Syntem		
Datata DaterTime DaterTime DaterTime		
Ceoling System	Tauch Dogley X	
12	= = • •	
Configuration	A 28/06/22 Tue 22:44	
C	H H	
	OFF BY KEYBOARD	
	11 110	

Firmware Upgrade

Network				
💉 тслия				
System				
	h	and Up	yata an	×
Capting System		ñ	e_ c	c.fleld
General Configuration		Syste		Upload Upload the files to ATTI INTERCEPTION for an
TTTT Comparison	4	Аат	5	Choose the
æ		Unit		Uplead
		Log		
	-	Variat		Upgrade
	_	Upgra		Select the apt package
	_	Clock		Choose Me
		Hop.	and and	Upgaae

General Configuration

Network										
ТСРИР										
System										
	Permant Lograde							×		
Cauling System	≡ ୶ ଭୁଙ						C.Fi	eld		
	B System	Without category						- î		
General Carificiation	🖵 p601	Unselect all						- 11		
[Alants	Search	0	± 5 m	٣	сп	8			
	L Unit	Name	Description :	Categories	Min	Max	Init			
K	🖉 Log	#_ger_5(pe	General alarm							
	S Variables		type (0-alarm-warning 1+only alarm)					1		
	Parameters	alam Logic	DO general					1		
	🗣 Upgrade		alarris - Logic (0- NO(1-NC)							
	O Clock	Analog_Ch_3vayvalve	AO 3way valve - ch.no		0%	4%		0		
	I Han interfere	1.2.2.1	100							

3.8 More features in the menu bar

Touch display:

This touch display has the same functionality as the touch in the main menu (See chapter 3) but is displayed in a separate tab.

Password change:

You can change the password to access the site **but not the Username that always** remains admin.



4. Virtual Touch Display

Some features of the machine's physical touch display have been replicated in its own digital form (only visualization) avaiable in the home page and in a separate tab (see chap 3.8).

Including:

- Real-time display of the temperature of the reference probe
- Alarm signals
- Compressor/pump/valve status (ON-OFF)



5. Alarms

In the event of an alarm of any kind on the machine, an error message appears on the display that will remain active until it is resolved. The alarms will only be displayed, in case of manual reset it is still necessary to go directly to the machine to disable the error message.



The information on the type of date and time alarm is displayed at the bottom of the homepage and is reset only when the alarm is deactivated (you can also view the alarm data in alarms overview menu but not the time).

lineStanp	Severity	Alarma Messages
2022/06/29 20:31:33	Alarm	- High Pressure Switch Alarm
2022/06/29 20:31:42	Alarm	- Low Pressure Switch Alarm
2022/06/29 20:31:44	Alarm	- Electric Lavel Switch Alerm
2022/06/29 20:31:32	Alam	- Compressor Motor Protection Switch Alarm
2022/06/29 20:31:32	Alarm	- Fan Matar Protection Switch Namn
2022/06/29 20:31:33	Alam	- Pump Motor Protection Switch Alarm
2022/06/29 20:31:35	Alarm	- Phase Control Alarm

6. Commissioning (only for Service)

The Commissioning web pages are dedicated to the management and supervision of the machine operation. To connect:

- The board must be powered
- Connected via ethernet port to the network
- USB disconnected

- Enter "*ip-address/commissioning/index.html*" in the browser



Within the commissioning there are several sections:

- System
- pGD1
- Alarms
- Unit
- Log
- Variables
- Parameters
- Upgrade
- Clock
- Web interface

6.1 System

It contains various information about the machine controller and the currently installed software version.

System Applica				System	
pGD1					
Alarts Version			5W037 1.0.006	Boot	v4.8.003 v4.8.003
Autris Version Config			P8 8W037V0-1	Core type	V4.0.003
Unit Curren	L crcle time		45 m	Controller type	UPC3
Maxim	cie time		1222 05	Board type	Medium
Log				MAC	00-04-50-01-18-50
				UID	000100800003217A
Variables Memor	~			Tera	C491C56D
	,			Plugins	
Parameters				L	
7/20		Size [MD]	Free [MD]	Concernence of the second seco	
Upgrade RAM		14.5	12.1	Network	
Clock					
				Hostname	
Web interface 7jpe		Size [MD]	Free (MD)	DONS.	
Private	(NAND 0)	30	25.4		Save
Public	(NAND 1)	91.2	64.5		3354
U88 #	ass storage (MSD 0) card (MMC 0)				
Weda	card (unic 0)			Put	Auto *
				19	10,76,31,51
				Mank	255 255 255 0
					10.75.21.1
				Gateway	
				DNS	10.75.4.11
					Seve
SV commissioning/index.html#					

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6.2 pGD1

Digital version of the pGD1 display with the simulation of Carel's base software.

fi Que C		
pdbt	A 29/06/22 Wed 16:55 🛧	
Alarns		
Unit	MAIN PAGE	
Log		
Variables	🕤 Unit status:	
Parameters	OFF BY KEYBOARD	
Upgrade		
Clock		
Web interface		

6.3 Alarms

List of alarms recorded since the software is loaded. All stored data can be exported to an Excel file.

φ.							ĸ	8 0	C		6
_	Alerra	Start time .	Stop time	0 Name	Description	Samp	4e 1		Sample	2	
		22/06/2022 22:17:18	22/06/2022 22:17:35	al_q_comp Active	Breaker switch compressor 1						
Э,	Unit	22/06/2022 22:10:39	22/06/2022 22:11.04	al_q_comp Active	Breaker switch compressor 1						
	Log	22/06/2022 22:04:35	22/06/2022 22:07:40	al_q_comp.Active	Breaker switch compressor 1						
	Variables	22/06/2022 18:45:57	22/06/2022 19:25:24	al_cf.Active	Phase monitoring						
		23/06/2022 10:45:56	22/06/2022 19:25:24	al_q_pump.Active	Breaker switch pump 1						
۶	Parameters	22/06/2022 18:45:55	22/06/2022 19:25:25	al_q_comp.Active	Breaker switch compressor 1						
*	Upgrade	22/06/2022 15:45:54	22/06/2022 19:25:24	al_q_fan.Active	Disates switch large 1						
0		23/06/2022 17:20:34	22/06/2022 17:22:01	al_le Active	Level switch 1 (H-C)						
		22/06/2022 17:20:32	22/06/2022 17:22:03	al_pb.Active	Low pressure switch 1						
	Web Interface	22/06/2022 17:20:25	22/06/2022 17:22:02	al_cfActive	Phase monitoring						
		22/06/2022 17:20:24	22/06/2022 17:22:03	al_pa.Active	High pressure switch 1						
		23/06/2022 17:20:23	22/06/2022 17:22:04	al_q_comp.Active	Breaker switch compressor 1						
		22/06/2022 17:20:23	22/06/2022 17:22:03	al_q_pump.Active	Breaker switch pump 1						
		22/06/2022 17:20:23	22/06/2022 17:22:03	al_q_fan.Active	Breaker switch fans 1						
		21/06/2022 23:57:58	21/06/2022 23:58:29	al_q_comp.Active	Breaker switch compressor 1						



- 1. Reset active alarms
- 2. Alarm log cleaning
- 3. Settings to change the refresh time of the alarm control and the separator character during export

Settings	;	×
Refresh interval (s) Separator character used during the export	5	
	Save	Cancel

- 4. Refresh the alarm log
- 5. Export in .xlsx
- 6. Data displayed in columns:

6.4 Unit

Real-time machine Input and Output list





1. Change page view

2. Data displayed in columns

6.5 Log

Report of the controller errors (not machine alarms).

=	* e_ c	Cfletd
	System	No log available
	pGD1	
	Alarns	
э.	Unit	
	Log	
	Variables	
+	Parameters	
*	Upgrade	
0	Clock	
	Web interface	

6.6 Variables

Variable list with real-time values managed by the software. You can graph multiple values at once and export the data to an Excel file. You can also rewrite the values of the Attention variables (see manual for service).

System	Without category							iel
D p601	Westout category							
Alerro					Search	5 K 6		.
Unit	Name	Description	Categories	Min	Max	Value	0 Plot	
🗟 Log	AmUniv1.ChEm	AIN - Universal 1 - Channel error				10		
Variables	AinUniv1.ChTyp	AIN - Universal 1 - Channel type				0		
	AisUsv1.MatLim	AIN - Universal 1 - Maximum limit				0		
 Parameters 	AisUsv1.MinLin	AIN - Universal 1 - Minimum limiti				0		
Upgrade	AmUniv1.Viii_HW	AIN - Universal 1 - Value hardware				28.69		
Clock	AirUnv10.ChEir	AIN - Universal 10 - Channel error				10		
	AirUniv10.ChTyp	AIN - Universal 10 - Channel type				0		
Web Interface	AirUniv10 MaxLim	AIN - Universal 10 - Maximum limit				0		
	AisUniv10.MinLini	AIN - Universal 10 - Minimum limiti				0		
	AisUsv10.Val_HW	AIN - Universal 10 - Value hardware				36.01		
	AisUsV11.ChErr	AIN - Universal 11 - Channel error				10		
	AinUnv11.Ch7yp	AIN - Universal 11 - Channel type				0		
	AirUnv11 MadJm	AIN - Universal 11 - Maximum limit				0		
	AisUsv11.MeLim	AIN - Universal 11 - Minimum Imiti				0		
	AmUnv11.Val_HW	AIN - Universal 11 - Value hardware				21.16		
	AisUniv12.ChEir	AIN - Universal 12 - Channel error				10		
	AinUniv12.ChTyp	AIN - Universal 12 - Channel type				0		
	AinUniv12 MaxLim	AIN - Universal 12 - Maximum Imit				0		
	AirUniv12.MinLim	AIN - Universal 12 - Minimam limiti				0		
	AinUnv12.VM_HW	AIN - Universal 12 - Value hardware				12.6		
	AinUniv2 ChEm	AIN - Universal 2 - Channel error				10		
	AinUniv2 ChTyp	AIN - Universal 2 - Channel type				0	0	
	AirUny2 MatLim	AIN - Universal 2 - Maximum limit				0		



- 1. Writing Variables
- 2. Graph
- 3. Settings to change the alarm control refresh

time and separation character during export

Setting	S	×
Refresh interval (s)	5	
Separator character used during the export		

- 4. Refreshing variables
- 5. Change Table View
- 6. Data displayed in columns:

6.7 Parameters

In this tab are present all the parameters of the machine. They can be exported to create different parameterizations and import later to apply them.

System									
	Without category								
) pGD1	Unselect all								
Alams					9	earch		0 ≜ 5 ≅ T C	a 8.
unt unt	Name	Description	Categories	Min	Max	int	Dev	Actual Val	Imported
Log	al_gen_type	General alarm type (Draiarm-warning: 1+only alarm)					63	5	
Vatables	alarm Logic	DO general alarms - Logic (0-NO:1-NC)					63	5	
	Analog_Ch_3wayvalve	AO Susiy value - ch no		0%	4%		0%	0.5	
Parameters	Analog_Ch_3wayvalve_exp	AO Sway valv on pCOe - ch no		0%	1.%		0%	0%	
Upgrade	Analog_Ch_Bypass_1	AO bypass circuit 1 - ch.no		0%	4%		0%	0%	
Clock	Analog_Ch_Bypass_2	AO typess circuit 2 - ch.no		0%	4%		0%	0%	
	Analog_Ch_pump1	AO pump speed circuit 1 - ch.no		0%	4%		0.15	0.%	
Web interface	Analog_Ch_pump2	AO pump speed circuit 2 - ch.no		0%	4.%		0.%	0.%	
	aut	Enable automatic reset alarm					22	5	
	aut_hp_digitale	Enable automatic reset alarm HP							
	Band	Proprioral band 3 way valve		010	99.9 °C		6 °C	6.c	
	Band_pumps	Proportional band pumps regulation	0	0 bar	99.9 bar		8.1 ber	8.1 bar	
	bof	Buzzer managing	0	0 min	15 min		2 min	2 min	
	040	Regulation type 3 way value (0+AES; 1+OIFF)						0	
	đ	Minimum time on compressor		0 min	3 min		0 min	0 min	
	00	Minimum time on to on same compressor		0 min	10 min		1 min	1 min	
	cond_type	Partialization fan type (0+no; 1+PV; 2+PCS-Inverter)		0	2		0	0	
	a	Delay on compressor after on chiller		0 min	10 min		2 min	2 min	
	c81	Regulation type intermediate exchanger SA (DnABS; 1+DIFF)							
	c52	Regulation type intermediate exchanger 18 (0+ABS, 1+DIFF)	0						
	ch	Load up compressors		0 min	999 min		0 min	0 min	
	d_out_bypass_2.Logic	DO bypass circuit 2 - Logic (5-NO(1-NC)							



- 1. Info
- 2. Write parameters
- 3. Import .dev files
- 4. Save the current parameters file
- 5. Filter
- 6. Updating variables
- 7. Change Table View
- 8. Data displayed in columns

6.8 Upgrades

For software updates.

System	Upload	
) pGD1	Uptoad the files to INTTPITRANSPER folder	
Alams	oppose the max of the entropy of the	Choose file
Unt	Upload	
Log		
Variables		
Parameters	Upgrade	
Upgrade	Select the apt package	
Clock		Chose fie
Web interface	Upgrade	

6.9 Clock

The time and date of the controller.

≡ # 9 0				C .field
System	System Clock			
₽ pGD1	Device local time	Wed, Jun 29, 2022 4:57:05 PM		
Alarns			Sync with pc time	
a ung	Mode	Manual	•	
Valables	Timezone Server 1	(UTC+01.00) Amsterdam, Berlin, Bern, Rome, Stockholm, Venna	•	
🕨 Parameters	Server 2			
Vpgrade			Save	
Oook Web interfere				
Web interface				

6.10 Web interface

Addressing within the commissioning of the custom pages WEB (see previous chapters).

