Initial Modbus setup of MIXIT with Grundfos GO Remote:

- Connect to MIXIT with your Grundfos GO remote.
- If this is the first time the MIXIT is connected with Grundfos GO Remote please run the initial setup through.
- When the Dashboard is shown on the screen, press Upgrades and control the green check mark in the CONNECT upgrade.
- Upgrade MIXIT with CONNECT licenses if not present.
- Hereafter you need to setup the Modbus connection.

    o Settings -> Other settings -> Connectivity settings -> Fieldbus connection settings
- Select Modbus
    o Modbus RTU for RS485
        ▪ Follow setup guide.
        ▪ Ensure to note what selections are made or even better make a Grundfos GO report with all information after setup.
            • Example
                o 9600 Baud
                o No Parity (2 stop bit)
                o Device address 1

    o Modbus TCP for Ethernet
        ▪ Follow setup guide
        ▪ Select IP or Enable DHCP
            • If DHCP is selected, wait for 1 minute before checking the IP address given to MIXIT.
        ▪ Ensure to note what selections are made or even better make a Grundfos GO report with all information after setup.
            • Example
                o IP address 192.168.1.100
                o Server port 502

Initial Modbus setup [Write]

Register number	Type	Name	Modbus unit	Value	Description
101 bit 0	Binary	ControlBits.RemoteAccessReq		00000000000**1**	0: Bus control disabled (power-on default) 1: Bus control
117	Enum	Config.TempSetpointSource		2	0: Local input (default) 1: Analog input 2: Fieldbus 3: Outdoor Temp. Analog Input 4: Outdoor Temp. Fieldbus
102	Decimal	Control.SetTempSetpointRemote	0.01K*	30315 = 30°C	Temperature setpoint set via fieldbus
101 bit 1	Binary	ControlBits.OnOff		0000000000**1**1	0: Stop system (OFF) (default) 1: Start system (ON)

*Remember all temperature in Modbus is written in 1/100 Kelvin

Iterative read from MIXIT Modbus register to maintain connectivity:

- Read from, for example, status register 201 **every 30 sec** to maintain communication between Building Management System and MIXIT. If communication is lost, MIXIT will reverse back to local setpoint.

- Ensure to set the local setpoint Register number 118 [0.01K] to a safe value, so heat/cooling not is lost if communication error.

- Ensure **NOT** to write in persistence area when making the iterative read of MIXIT to keep MIXIT in bus control, which means **read** from the unit and **don't write** every 30 sec.

Calculation from Kelvin to Celsius:

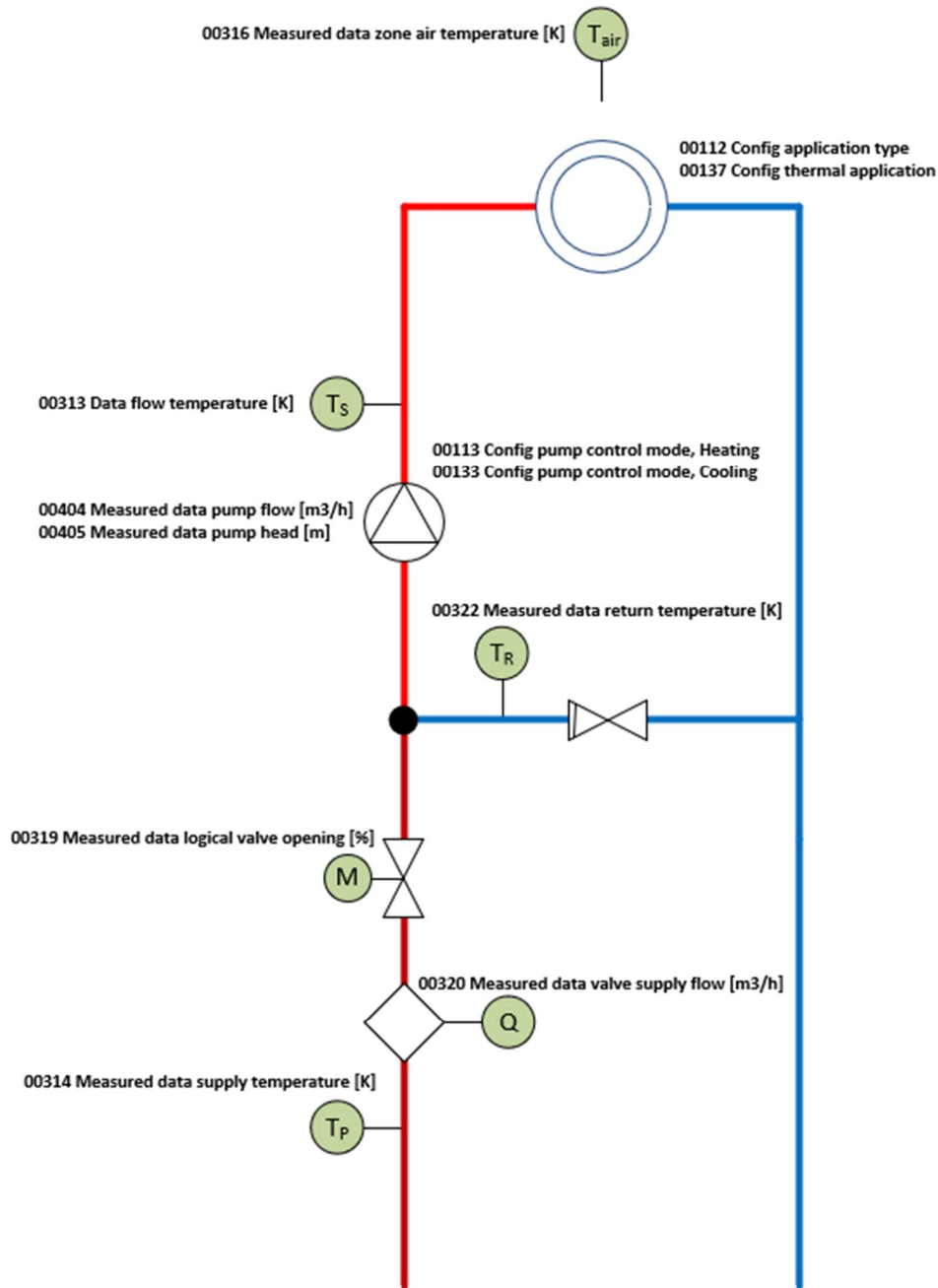Reading value 29983. Remember it scales in 0.01 K

$$X(Celsius) = X(0.01Kelvin)/100 - 273.15$$

$$= 29983/100 - 273.15$$

$$= 26.7 \text{ C}$$

Calculation from Celsius to Kelvin:

Setting value 26,7°C. Remember it scales in 0.01 K

$$X(Kelvin) = (X(Celsius) + 273.15)100$$

$$= (26,7 + 273.15)100$$

$$= 29985$$

Valuable Modbus address together with MIXIT

00316 Measured data zone air temperature [K] T_{air}

00112 Config application type
00137 Config thermal application

00313 Data flow temperature [K] T_S

00113 Config pump control mode, Heating
00133 Config pump control mode, Cooling

00404 Measured data pump flow [m3/h]
00405 Measured data pump head [m]

00322 Measured data return temperature [K]

T_R

00319 Measured data logical valve opening [%]

M

00320 Measured data valve supply flow [m3/h]

Q

00314 Measured data supply temperature [K]

T_P

T_P = Supply temperature measured at the valve.
Q = Flow rate at primary side measured at the A-port.
M = Valve opening request.
T_R = Return temperature measured at the valve.
T_S = Flow temperature measured in the secondary side via the connected pump.
T_{air} = Air temperature measured at analog input (CIO2) used in coil application.