

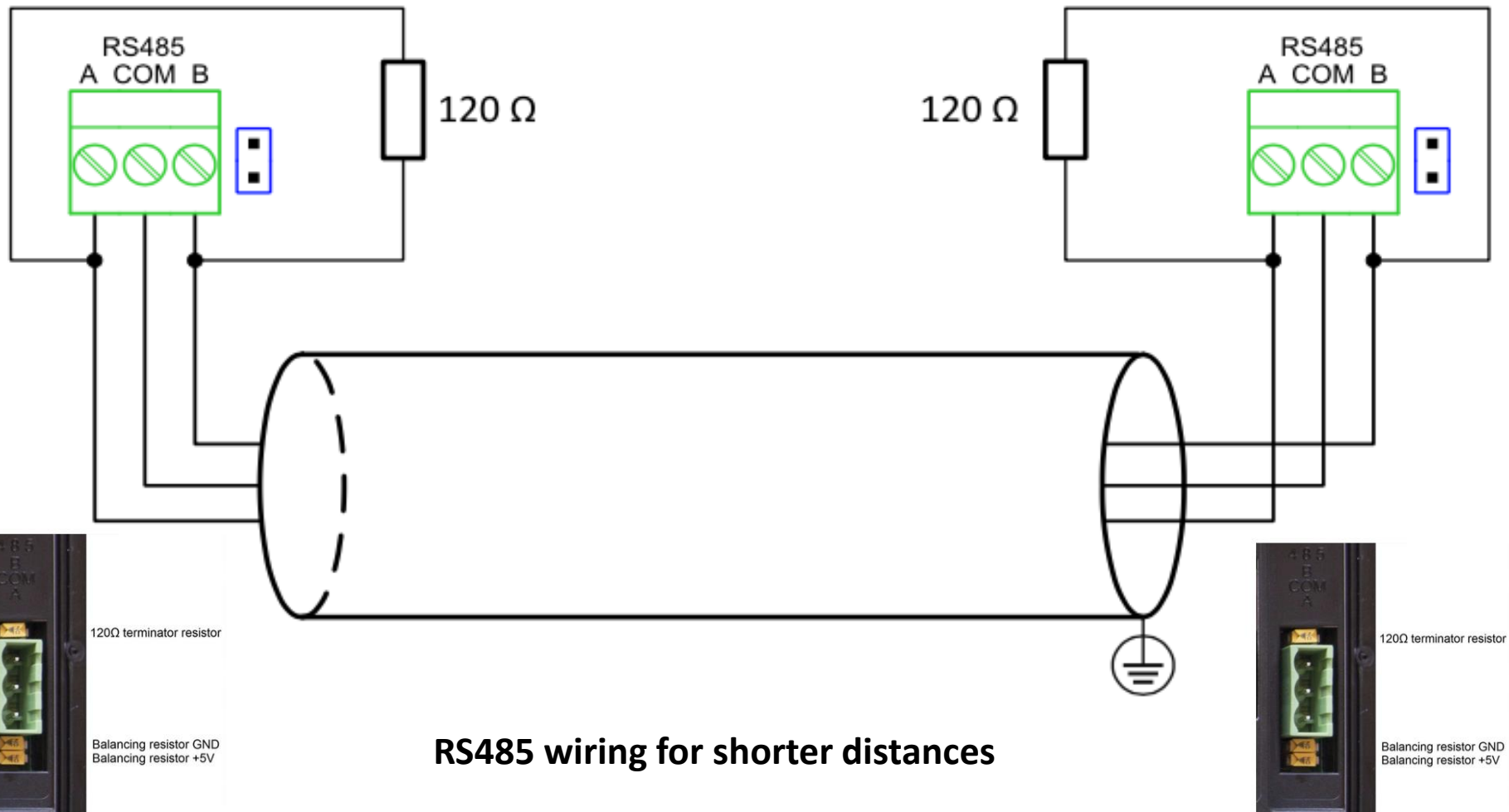
a. RTU (RS485)

Connection via RS485

The wiring of the RS485 communication should be provided in such a way that the following rules are observed:

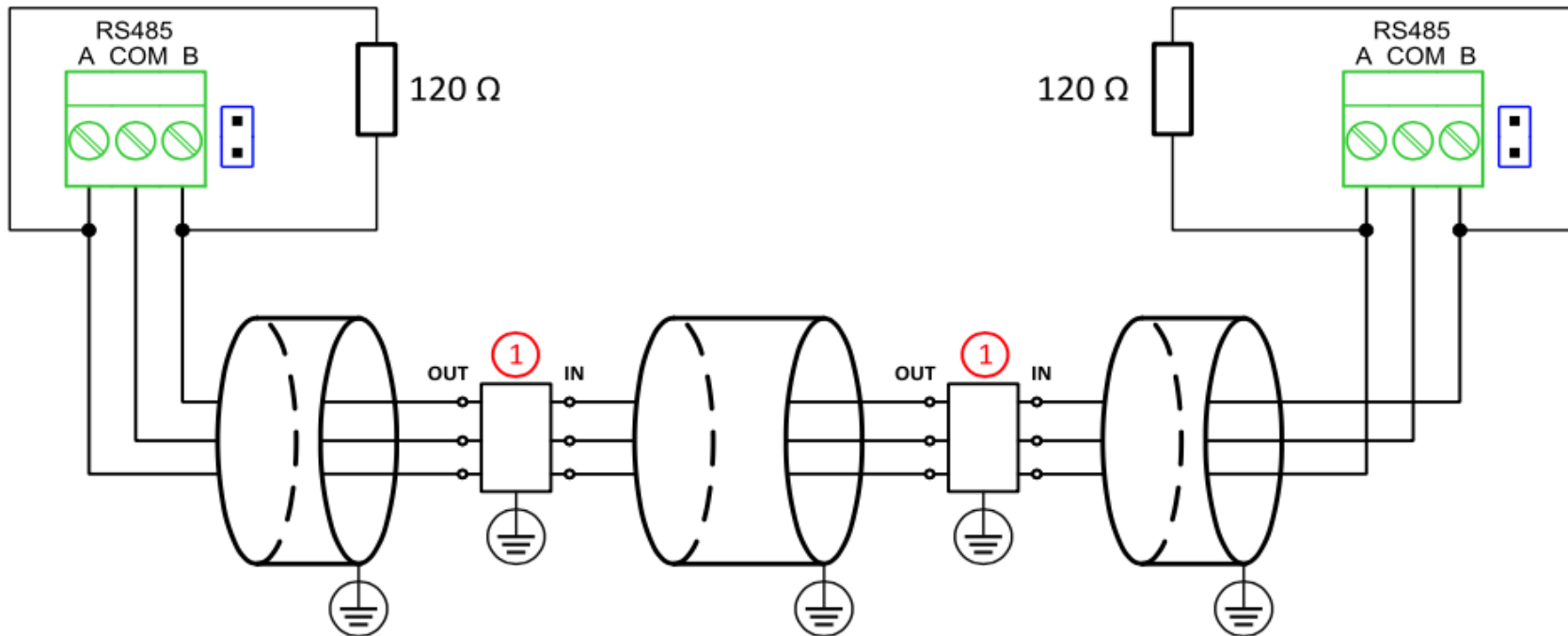
- Standard maximum link length is 1000 m.
- Shielded cable has to be used, shielding has to be connected to the terminal T01 (BATT -).
- External units can be connected on the RS485 line in any order, but keeping line arrangement (no tails, no star) is necessary.
- The line has to be terminated by 120 Ohm resistors at both ends.

Connection via RS485



RS485 wiring for shorter distances

Connection via RS485



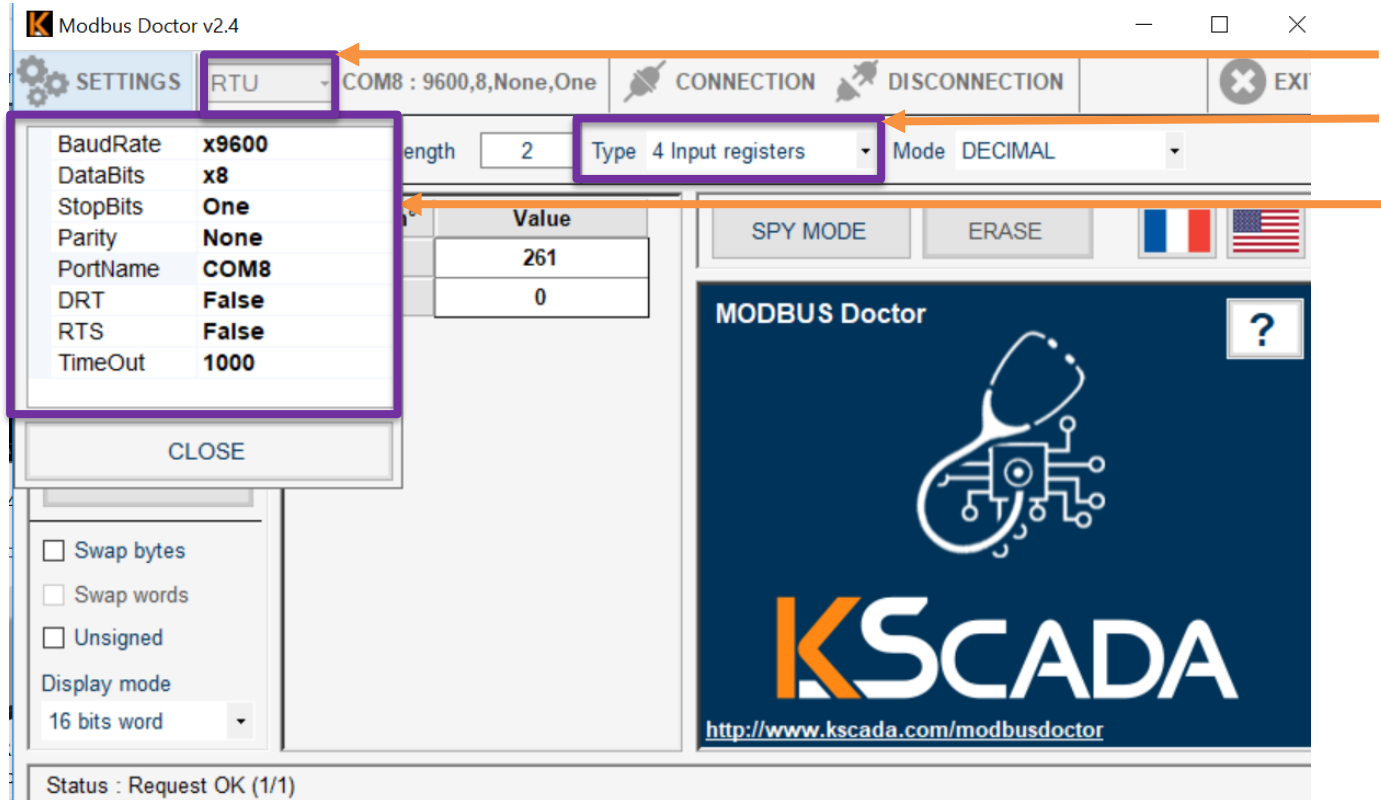
RS485 wiring for longer distances

APM403 Configuration

Basic Settings	Controller Address	1
Communication Settings	<div>RS485 Settings</div> <div>RS485 Mode</div> <div>MODBUS</div> <div>RS485 Communication Speed</div> <div>9600</div> <div>RS485 Modbus Speed</div> <div>9600</div>	
Engine Settings		
Generator Settings		
Power Management		
Speed/Load Control		
Voltage/PF Control		

Serial Parameters

MODBUS DOCTOR



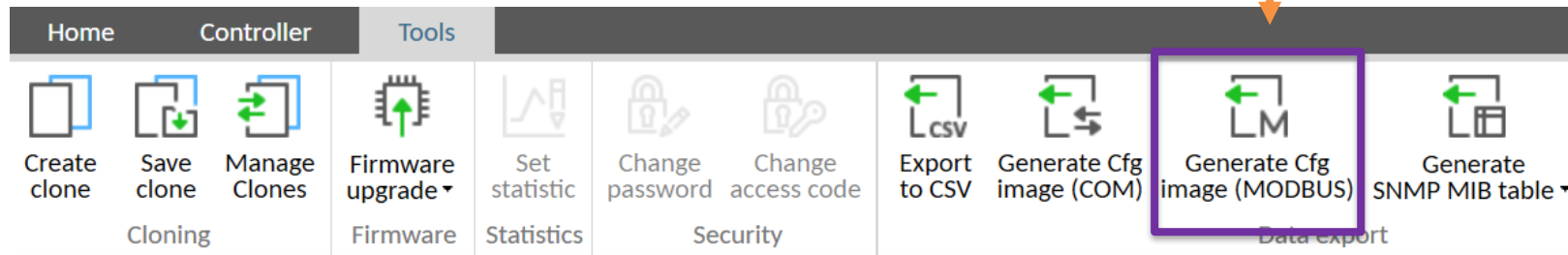
RTU
Type

Serial Parameters

MODBUS RTU : Test Communication

MODBUS Table

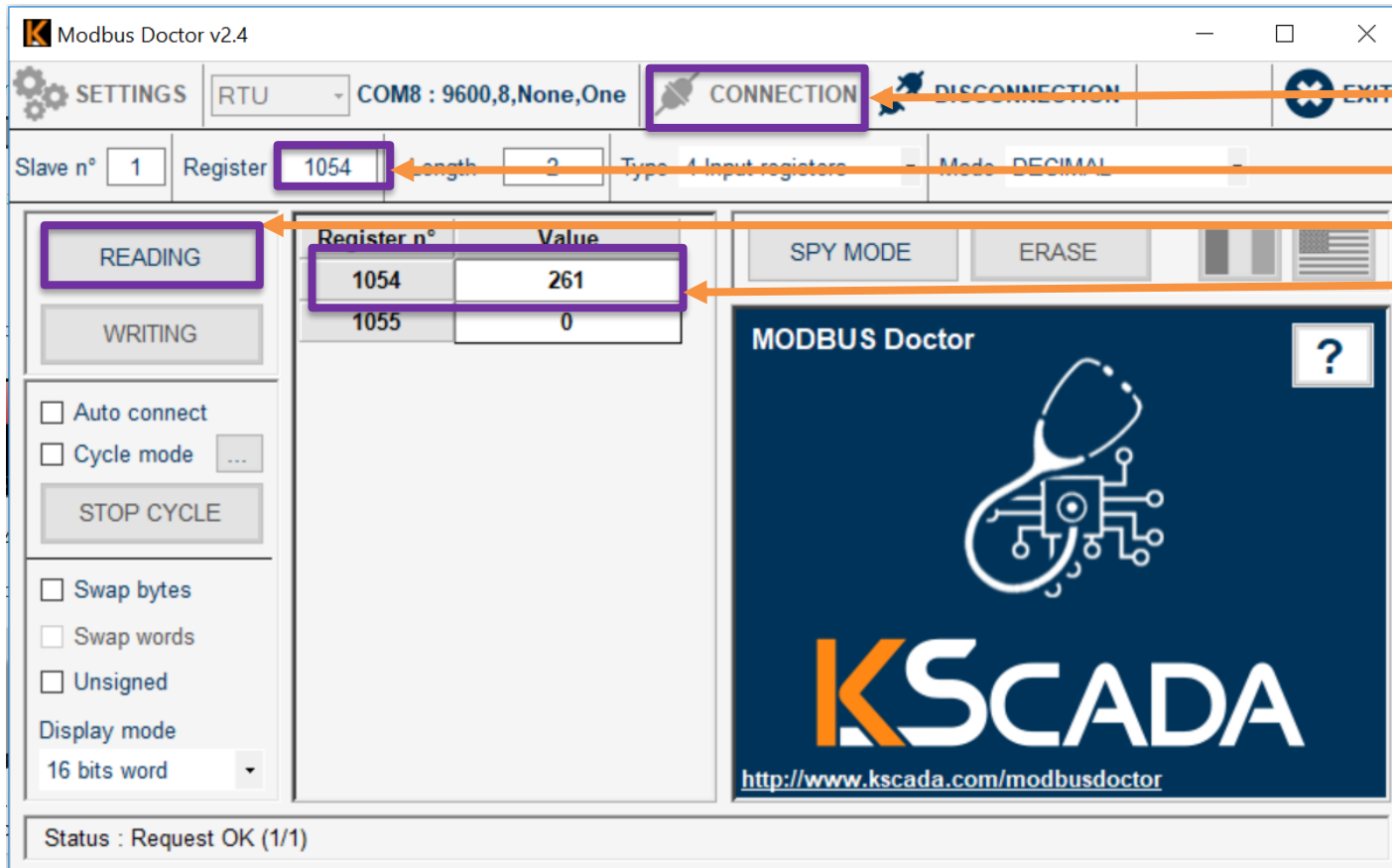
Generate MODBUS Table



01036	8210	Generator Frequency	Hz	Unsigned	2	1	0	4000	Generator
01037	8192	Generator Voltage L1-N	V	Unsigned	2	0	0	65535	Generator
01038	8193	Generator Voltage L2-N	V	Unsigned	2	0	0	65535	Generator
01039	8194	Generator Voltage L3-N	V	Unsigned	2	0	0	65535	Generator
01040	9628	Generator Voltage L1-L2	V	Unsigned	2	0	0	65535	Generator
01041	9629	Generator Voltage L2-L3	V	Unsigned	2	0	0	65535	Generator
01042	9630	Generator Voltage L3-L1	V	Unsigned	2	0	0	65535	Generator
01043	8198	Generator Current L1	A	Unsigned	2	0	0	32767	Generator
01044	8199	Generator Current L2	A	Unsigned	2	0	0	32767	Generator
01045	8200	Generator Current L3	A	Unsigned	2	0	0	32767	Generator
01046	1831	Generator Neutral Current	A	Unsigned	2	0	0	32767	Generator
01047	8211	Mains/Bus Frequency	Hz	Unsigned	2	1	0	4000	Mains/Bus
01048	8195	Mains/Bus Voltage L1-N	V	Unsigned	2	0	0	65535	Mains/Bus
01049	8196	Main /Bus Voltage L2-N	V	Unsigned	2	0	0	65535	Mains/Bus
01050	8197	Main /Bus Voltage L3-N	V	Unsigned	2	0	0	65535	Mains/Bus
01051	9631	Main /Bus Voltage L1-L2	V	Unsigned	2	0	0	65535	Mains/Bus
01052	9632	Main/Bus Voltage L2-L3	V	Unsigned	2	0	0	65535	Mains/Bus
01053	9633	Main/Bus Voltage L3-L1	V	Unsigned	2	0	0	65535	Mains/Bus
01054	8211	Battery Volts	V	Integer	2	1	0	360	Controller I/O
01055	1060	Controller I/O	V	Integer	2	0	0	360	Controller I/O
01056	9151	Not Used		Integer	2	0	0	200	Controller I/O
01057	9152	Not Used		Integer	2	0	0	200	Controller I/O
01058	9153	Not Used		Integer	2	0	0	200	Controller I/O
01059	9154	Not Used		Integer	2	0	0	200	Controller I/O
01060	10124	CU Temperature	°C	Integer	2	1	-500	800	Invisible
01061	14389	CU Analog Input 1 Wcn Level		Integer	2	0	0	200	Invisible

MODBUS RTU : Test Communication Read

MODBUS DOCTOR



Connection

Register

Read

Result : Battery Volt

MODBUS RTU : Test Communication Write

MODBUS DOCTOR

Table: Setpoints

Allowed MODBUS functions: 03, 04, 06, 16

Register(s)	Com.Obj.	Name	Dimension	Type	Len	Dec	Min	Max	Group
03000-03007(8)	8637	Gen-Set Name		String	16	0	-	-	Basic Settings
03008	8276	Nominal Power	kW	Unsigned	2	0	1	5000	Basic Settings
03009	9977	Nominal Power Split Phase	kW	Unsigned	2	0	1	5000	Basic Settings
03010	8275	Nominal Current	A	Unsigned	2	0	1	10000	Basic Settings
03011	8274	CT Ratio	A/5A	Unsigned	2	0	1	5000	Basic Settings
03012		Not Used							
03013	11628	Connection Type		List#12	1	0	383	383	Basic Settings
03014	8277	Nominal Voltage Ph-N	V	Unsigned	2	0	80	20000	Basic Settings
03015	11657	Nominal Voltage Ph-Ph	V	Unsigned	2	0	80	40000	Basic Settings
03016	9579	Gen VT Ratio	V/V	Unsigned	2	1	1	5000	Basic Settings
03017	9580	Mains/Bus VT Ratio	V/V	Unsigned	2	1	1	5000	Basic Settings
03018	8278	Nominal Frequency	Hz	Unsigned	2	0	45	65	Basic Settings
03019	8252	Gear Teeth		Unsigned	2	0	0	500	Basic Settings
03020	8253	Nominal RPM	RPM	Unsigned	2	0	100	4000	Basic Settings
03021	8315	Controller Mode		List#10	1	0	40	43	Basic Settings
03022	13000	Power On Mode		List#13	1	0	453	454	Basic Settings
03023	15384	Test Without Load Duration	min	Unsigned	1	0	0	101	Basic Settings
03024	12157	Application		List#1	1	0	434	436	Invisible
03025	24537	Controller Address		Unsigned	1	0	1	32	Communication Settings
03026		Not Used							
03027	9983	Reset To Manual		List#14	1	0	251	252	Basic Settings
03028	10121	Backlight Timeout	min	Unsigned	1	0	0	255	Basic Settings
03029	8264	Horn Timeout	s	Unsigned	2	0	0	600	Basic Settings
03030	8548	Zero Power Mode	min	Unsigned	2	0	0	360	Invisible
03031	13346	Main Screen		List#15	1	0	468	469	Basic Settings
03032	24134	RS485 Mode		List#16	1	0	705	706	Communication Settings
03033	24135	RS485 Communication Speed		List#17	1	0	708	712	Communication Settings
03034	24141	RS485 Modbus Speed		List#17	1	0	714	718	Communication Settings

Controller Mode

List#10

MODBUS DOCTOR

```
1089      9 CM-GPRS
1090     10 CM-4G-GPS
1091
1092 -----
1093 List#8
1094
1095 Value  Name
1096 -----
1097      0 Not Used
1098      1 SOLO
1099      2 PARALLEL
1100
1101 List#9
1102
1103 Value  Name
1104 -----
1105      0 Not Used
1106      1 Standard
1107
1108 List#10
1109
1110 Value  Name
1111 -----
1112      0 OFF
1113      1 MAN
1114      2 AUTO
1115      3 TEST
1116
1117 List#11
```

Rechercher

Rechercher Remplacer Rechercher dans les fichiers d'un dossier Marquer

Recherche : List#10

☐ Rechercher vers l'arrière
☐ Mot entier uniquement
☐ Respecter la casse
☒ Boucler

Mode de recherche
☒ Mode normal
☐ Mode étendu (\\n, \\r, \\t, \\0, \\x...)
☐ Expression régulière ☐ comprend ligne r

☒ Transparence
☒ à la perte du focus
☐ persistante

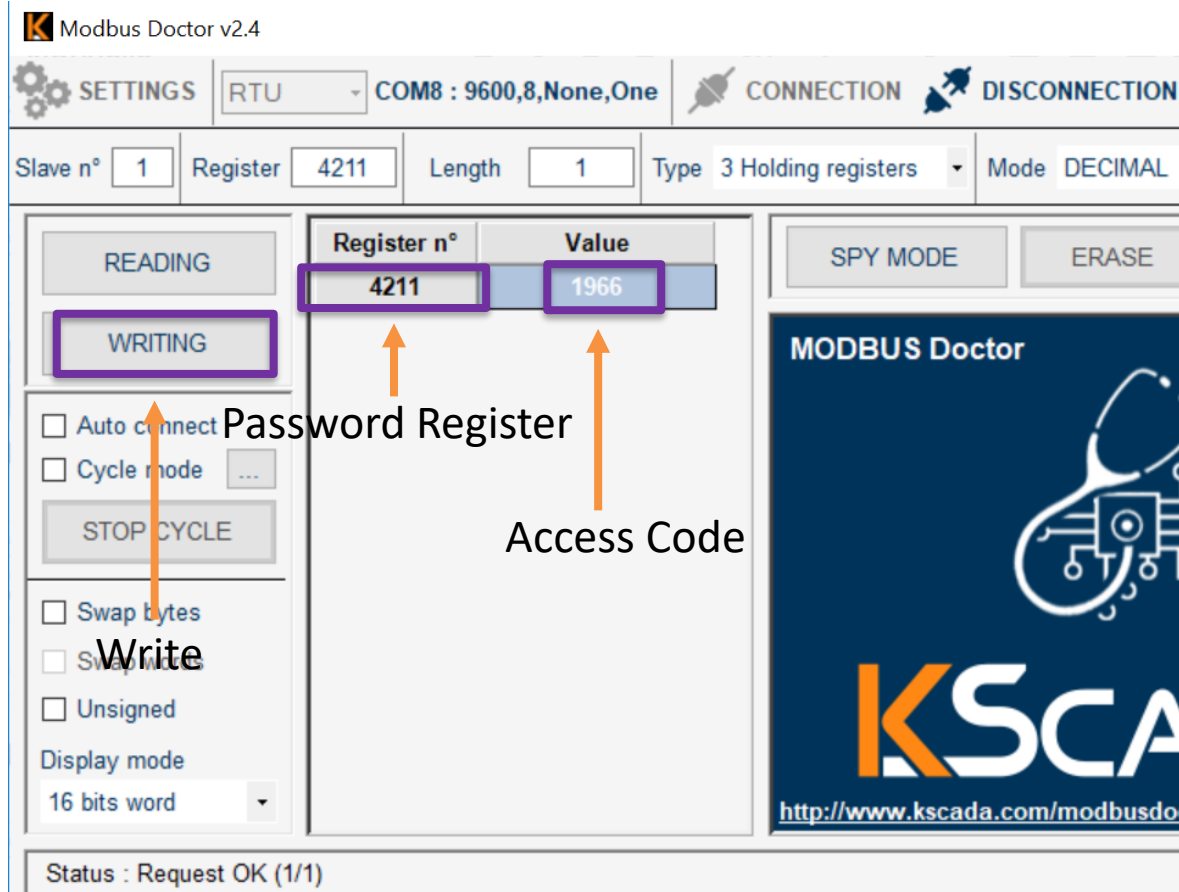
Suivant
Compter
Rechercher dans tous les documents ouverts
Rechercher dans le document actuel
Annuler

List#10

Mode

MODBUS RTU : Test Communication Write

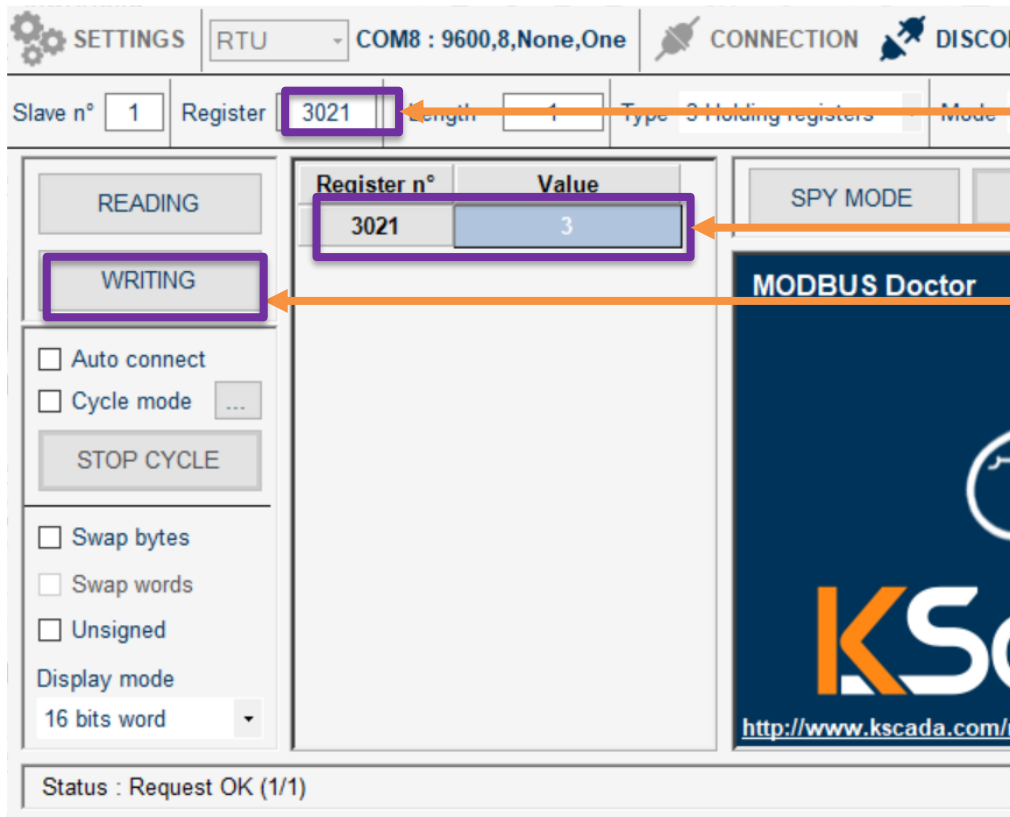
Password Register



MODBUS RTU : Test Communication Write

Put Controller in Test Mode

Modbus Doctor v2.4



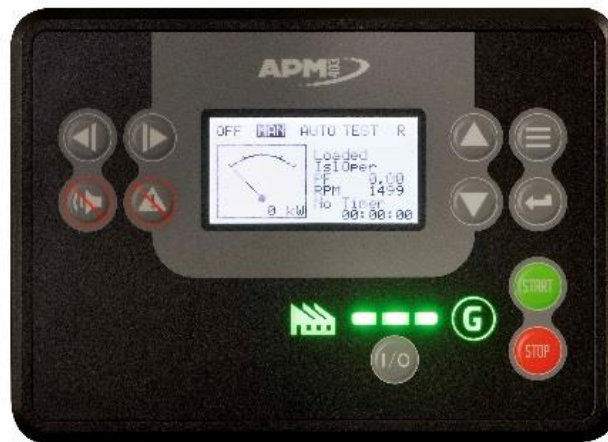
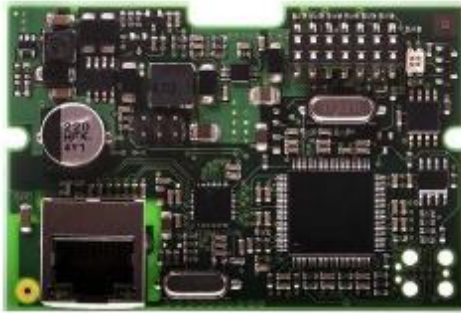
Register

Test Mode

Write

b. Ethernet

MODBUS : Ethernet



IP : 192.168.0.4

Ethernet Cable



IP : 192.168.0.3

MODBUS : Ethernet

Setpoints - Expert		
Setpoint Groups	Setpoint Name	Setpoint Value
Process Control	SMTP User Password	<input type="text"/>
Basic Settings	SMTP Server Address	<input type="text" value="airgate.comap.cz:9925"/>
Communication Settings	SMTP Sender Address	<input type="text"/>
Engine Settings	IP Address Mode	<input type="text" value="Fixed"/>
Generator Settings	IP Address	<input type="text" value="192.168.0.4"/>
Mains Settings	Subnet Mask	<input type="text" value="255.255.255.0"/>
Power Management	Gateway IP	<input type="text" value="192.168.0.1"/>
Speed/Load Control	DNS IP Address 1	<input type="text" value="8.8.8.8"/>
Voltage/PF Control	DNS IP Address 2	<input type="text" value="4.4.4.4"/>
Synchronisation	MODBUS Server	<input type="text" value="Enabled"/>
Droop Settings	SNMP Agent	<input type="text" value="Disabled"/>
General Analog Inputs	SNMP RD Community String	<input type="text" value="public"/>
Scheduler	SNMP WR Community String	<input type="text" value="private"/>
Geo-Fencing	SNMP Traps IP Address 1	<input type="text"/>
CU AIN Calibration	SNMP Traps IP Address 2	<input type="text"/>
Plug-In Modules	AirGate Connection	<input type="text" value="Enabled"/>
CM-RS232-485	AirGate Address	<input type="text" value="airgate.comap.cz"/>
CM-GPRS	ComAp TCP Port	<input type="text" value="23"/>
CM-4G-GPS		
CM-Ethernet		

Fixed

Controller IP Address

IP Mask

Enabled Modbus Server

Ethernet : IP Configuration (Computer)

Network and sharing center :

Afficher les informations de base de votre réseau et configurer des connexions

Afficher vos réseaux actifs

kohlerco.com

Réseau avec domaine

Type d'accès :

Internet

Connexions :

Wi-Fi (universal)

Réseau non identifié

État de Ethernet

Général

Connexion

Connectivité IPv4 : Pas d'accès réseau
Connectivité IPv6 : Pas d'accès réseau
État du média : Activé
Durée : 00:28:50
Vitesse : 100,0 Mbits/s

Détails...

Activité

Envoyés

Reçus

Octets : 1 658 027 | 3 872 070

Propriétés

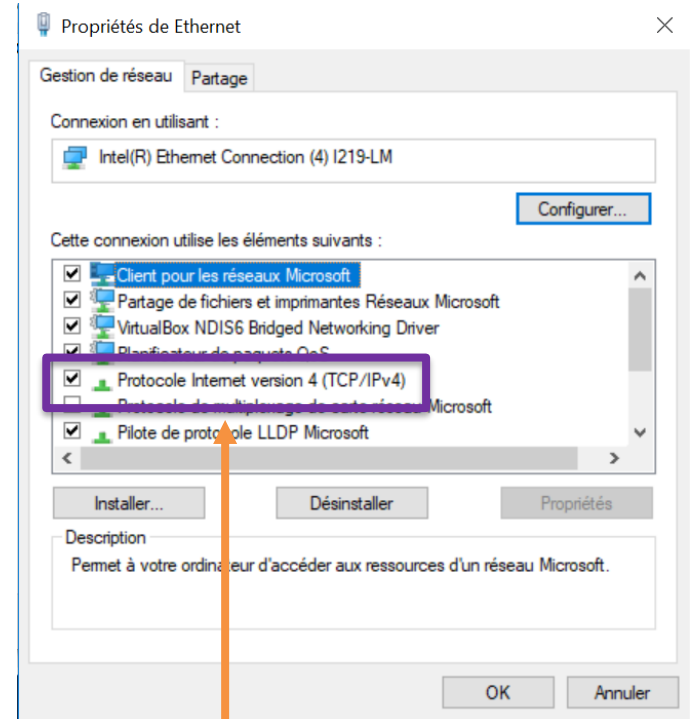
Désactiver

Diagnostiquer

2. Properties

Fermer

1. Ethernet



Ethernet : IP Configuration (Computer)

Propriétés de : Protocole Internet version 4 (TCP/IPv4)



Général

Les paramètres IP peuvent être déterminés automatiquement si votre réseau le permet. Sinon, vous devez demander les paramètres IP appropriés à votre administrateur réseau.

☐ Obtenir une adresse IP automatiquement

☒ Utiliser l'adresse IP suivante :

Adresse IP :

192 . 168 . 0 . 3

Masque de sous-réseau :

255 . 255 . 255 . 0

Passerelle par défaut :

. . .

☐ Obtenir les adresses des serveurs DNS automatiquement

☒ Utiliser l'adresse de serveur DNS suivante :

Serveur DNS préféré :

. . .

Serveur DNS auxiliaire :

. . .

☐ Valider les paramètres en quittant

Avancé...

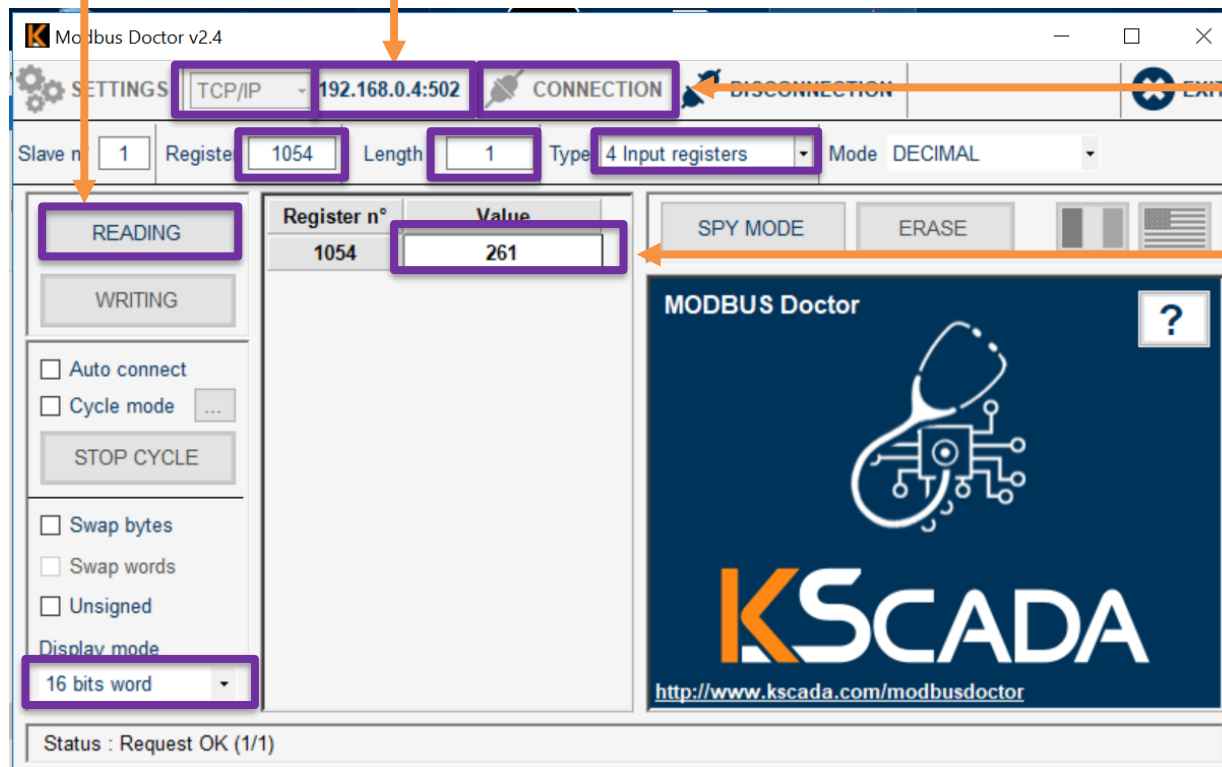
OK

Annuler

IP Address
Mask

MODBUS : MODBUS Configuration

Controller IP Address
Communication Port MODBUS : 502
Reading

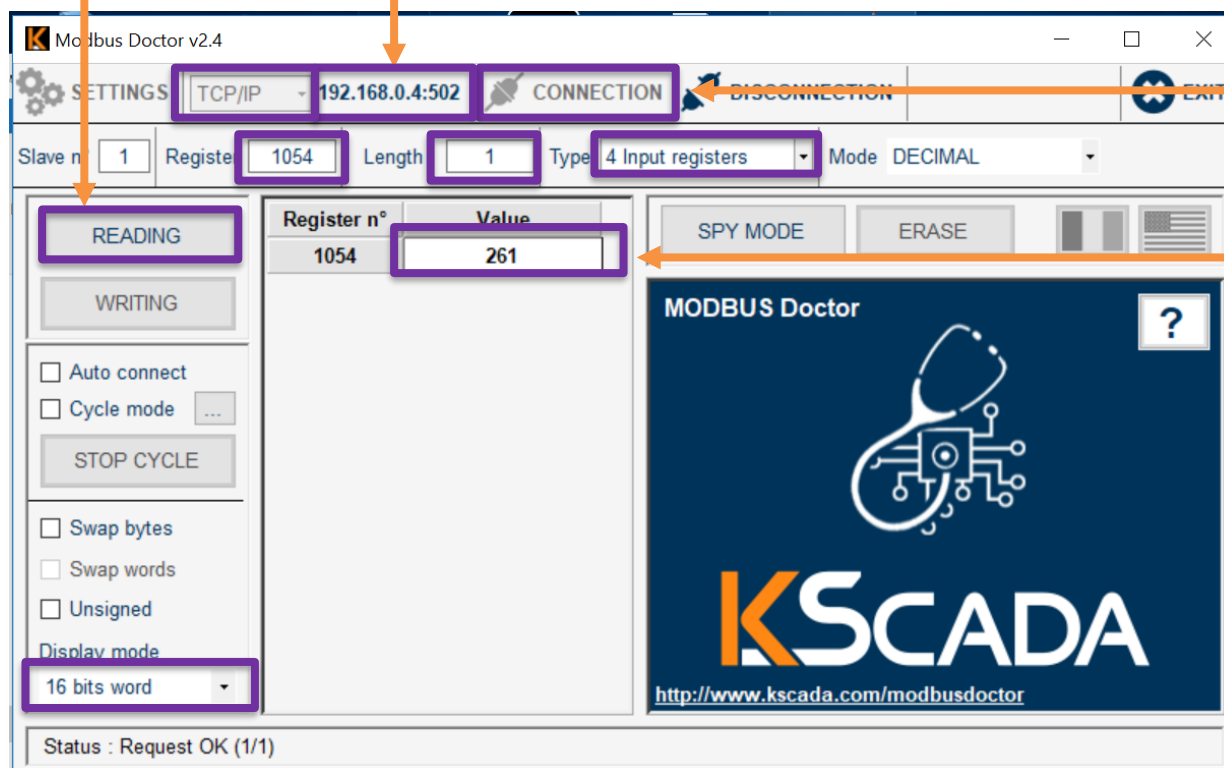


Connection

Battery Voltage

MODBUS : Read

Reading Controller IP Address
Communication Port MODBUS : 502



Connection

Battery Voltage