

<b>Specification: communication protocol Modbus &lt;--&gt; RCL324, datapoints and domains tables</b>			<b><i>ELESTA</i></b> energy control
A.Pichonnat	16.11.2010	Version: 1.02	Pages: 1 - 20

## Contents

1. Introduction
2. Datapoints index tables
3. Domains index tables and structures
4. Version history

### 1. Introduction (English)

An other document **Specification: communication protocol, Modbus <--> RCL324, basis** (164299) describes the Modbus communication protocol and the calculation of the Modbus datapoints and domains indexes.

This specification defines the data index number and format (datapoints and domains), which runs between Modbus and RCL324-controller.

The RCL324-controller is normally defined as slave on Modbus. It can also be defined as Master for simple local data transferring.

Look at the paper **Technical manual RCL324, Parameter** as reference to the MMI datapoint.

Abbreviations:

- NaN                               Not An Number
- SM                                 Special module
- LM                                 Logical module
- CM                                 Converter module
- AM                                 Analog module

Common definitions:

- In this document, hex values will be defined with 0x. For example 0xa (hex) means 10 (dez)
- As ground principle: actual values are normally read only, other values are read/write possible

Data points:

- The data points values (always 4 bytes long) is defined as float
- A data point means one value. For example: parameter D111
- A list of contiguous data points can be queried. Undefined data points will be returned as NaN (0xffc00000)
- By writing data points, it is only possible to query max. 1 data point per message (1 data point: 4 bytes, 2 words)

Domains:

- The domain values (various length) is defined separately (normally not float)

- A domain means a list of values. For example: time/date with hour, min, s, etc.
- A list of contiguous domains can be queried
- By writing domains, it is only possible to query max. 1 domain per message (1 domain: n bytes, n/2 words, domain dependency)

Message definitions:

- It is possible to query max. 127 words (254 bytes) per message
- Always whole datapoints resp. domain must be treated
- Only RTU mode is supported

## 1. Einleitung (Deutsch)

Ein anderes Dokument **Specification: communication protocol, Modbus <--> RCL324, basis** (164299) beschreibt das Modbus Kommunikationsprotokoll und die Berechnung der Modbus-Datenpunkt- resp. Domain-Indexe.

Diese Beschreibung definiert die Nummerindexe und Formate der Daten (Datenpunkte und Domains), welche zwischen Modbus und RCL324-Regler laufen.

Der RCL324-Regler ist normalerweise Slave auf Modbus. Er kann auch als Master für kleine, lokale Datentransfer definiert werden.

Siehe auch das Dokument **Technisches Handbuch RCL324, Parameter** als Referenz für die MMI-Datenpunkte.

Abkürzungen:

- |                     |                            |
|---------------------|----------------------------|
| • NaN               | Not An Number (keine Zahl) |
| • Datapoint         | Datenpunkt                 |
| • Domain            | Domain                     |
| • Table             | Tabelle                    |
| • Parameter         | Parameter                  |
| • Display level     | Display Ebene              |
| • Hand level        | Hand Ebene                 |
| • Applikation level | Applikation Ebene          |
| • Extension level   | Erweiterung Ebene          |
| • Management level  | Management Ebene           |
| • Clock             | Schaltuhr                  |
| • Input             | Eingang                    |
| • Output            | Ausgang                    |
| • SM                | Spezialmodule              |
| • LM                | Logikmodule                |
| • CM                | Konvertermodule            |
| • AM                | Analogmodule               |
| • Switch point      | Schaltpunkt                |

Allgemeine Definitionen:

- In diesem Dokument, sind die Hex-Werte mit 0x definiert. Beispiel 0xa (hex) steht für 10 (dez)
- Als grundprinzip gilt: Istwerte sind normalerweise nur lesbar, die andere Werte sind lesbar/schreibbar

Datenpunkte:

- Die Datenpunktwerte (immer 4 Bytes lang) sind als „float“-Werte definiert
- Ein Datenpunkt entspricht ein Wert. Beispiel: Parameter D111
- Die Abfrage einer Liste von benachbarten Datenpunkten ist möglich. Die undefinierte Datenpunkte werden als NaN (0xffc00000) zurückgegeben
- Beim schreiben, kann nur ein Datenpunkt per Meldung verarbeitet werden (1 Datenpunkt: 4 Bytes, 2 Words)

Domains:

- Die Domain-Werte (variable Länge) sind separat definiert (normalerweise nicht „float“)
- Ein Domain entspricht eine Wertliste. Beispiel: Zeit/Datum mit Stunden, Minuten, etc.
- Die Abfrage einer Liste von benachbarten Domains ist möglich
- Beim schreiben, kann nur ein Domain per Meldung verarbeitet werden (1 Domain: n Bytes, n/2 Words, abhängig vom Domain)

Meldungsdefinitionen:

- Per Meldung können Maximum nur 127 Words (254 Bytes) verarbeitet werden
- Es müssen immer ganze Datenpunkte resp. Domain behandelt werden
- Nur der RTU Modus ist unterstützt

## 1. Introduction (Français)

Un autre document **Specification: communication protocol, Modbus <--> RCL324, basis** (164299) décrit le protocole de communication Modbus et le calcul des index des point de données et des domaines Modbus.

Ce document définit les index et formats des données (points de données et domaines), qui circulent entre le modbus et le régulateur RCL324.

Le régulateur RCL324 est normalement défini comme esclave sur modbus. Il peut également être défini comme maître pour de simples transferts locaux de données.

Voir également le document **Manuel technique RCL324, Paramètres** comme référence pour les points de données MMI.

Abréviations:

- |                     |                                     |
|---------------------|-------------------------------------|
| • NaN               | Not An Number (N'est pas un nombre) |
| • Datapoint         | Point de donnée                     |
| • Domain            | Domaine                             |
| • Table             | Table                               |
| • Parameter         | Paramètre                           |
| • Display level     | Niveau display                      |
| • Hand level        | Niveau manuel                       |
| • Applikation level | Niveau application                  |
| • Extension level   | Niveau extension                    |
| • Management level  | Niveau management                   |
| • Clock             | Horloge                             |
| • Input             | Entrée                              |
| • Output            | Sortie                              |
| • SM                | Module spécial                      |
| • LM                | Module logique                      |
| • CM                | Module de conversion                |

- AM                                   Module analogique
- Switch point                       Point de commutation

Définitions générales:

- Dans ce document, les valeurs hex sont définies par 0x. Par exemple 0xa (hex) représente 10 (déc)
- Principe de base: les valeurs actuelles ne peuvent normalement être que lues, les autres valeurs peuvent être lues et écrites

Points de donnée:

- Les valeurs des points de donnée (toujours 4 bytes de long) sont définies comme valeurs flottantes
- Un points de donnée signifie une valeur. Par exemple: paramètre D111
- L'interrogation d'une liste de points de donnée contigus est possible. Les points de donnée indéfinis sont retournés comme NaN (0xffc00000)
- En écriture, il n'est possible de traiter qu'un seul point de donnée par message (1 point de donnée: 4 bytes, 2 words)

Domaines:

- Les valeurs des domaines (de longueur variable) sont définis séparément (normalement pas de valeur flottante)
- Un domaine représente une liste de valeurs. Par exemple: heure/date avec heure, minutes, etc.
- L'interrogation d'une liste de domaines contigus est possible
- En écriture, il n'est possible de traiter qu'un seul domaine par message (1 domaine: n bytes, n/2 words, en fonction du domaine)

Définitions des messages:

- Il est possible de traiter 127 words (254 bytes) au maximum par message
- Les points de données resp. les domaines doivent toujours être traités entièrement
- Seul le mode RTU est supporté

## 2. Datapoints index tables

Datapoints index: 0x0 .. 0x9ffe

**Attention:** index with \* are exceptions in the linear number system:

**Display level, base, application:**

Pos.	Mod. index	Pos.	Mod. index	Pos.	Mod. index	Pos.	Mod. index	Pos.	Mod. index	Pos.	Mod. index	Pos.	Mod. index	Pos.	Mod. index	Pos.	Mod. index
<b>1 top</b>	13202	<b>2 top</b>	13204	<b>3 top</b>	13206	<b>4 top</b>	13208	<b>5 top</b>	13210	<b>6 top</b>	13212	<b>7 top</b>	13214	<b>8 top</b>	13216	<b>9 top</b>	13218
<b>1 bottom</b>	13402	<b>2 bot.</b>	13404	<b>3 bot.</b>	13406	<b>4 bot.</b>	13408	<b>5 bot.</b>	13410	<b>6 bot.</b>	13412	<b>7 bot.</b>	13414	<b>8 bot.</b>	13416	<b>9 bot.</b>	13418

**Display level, base, system:**

<b>Option</b>	8400
<b>Application</b>	4002
<b>Language</b>	13804

Parameters display level:

Par.	Mod. index	Par.	Mod. index	Par.	Mod. index	Par.	Mod. index	Par.	Mod. index	Par.	Mod. index	Par.	Mod. index	Par.	Mod. index	Par.	Mod. index	Par.	Mod. index
		<b>D111</b>	222	<b>D112</b>	224	<b>D113</b>	226			<b>D115</b>	230	<b>D116</b>	232	<b>D117</b>	234	<b>D118</b>	236		
		<b>D121</b>	242	<b>D122</b>	244	<b>D123</b>	246			<b>D125</b>	250	<b>D126</b>	252	<b>D127</b>	254	<b>D128</b>	256		
		<b>D131</b>	262	<b>D132</b>	264	<b>D133</b>	266			<b>D135</b>	270	<b>D136</b>	272	<b>D137</b>	274	<b>D138</b>	276		
		<b>D141</b>	282	<b>D142</b>	284	<b>D143</b>	286			<b>D145</b>	290	<b>D146</b>	292	<b>D147</b>	294	<b>D148</b>	296		
		<b>D151</b>	302	<b>D152</b>	304	<b>D153</b>	306			<b>D155</b>	310	<b>D156</b>	312	<b>D157</b>	314	<b>D158</b>	316		
		<b>D161</b>	322	<b>D162</b>	324	<b>D163</b>	326			<b>D165</b>	330	<b>D166</b>	332	<b>D167</b>	334	<b>D168</b>	336		
		<b>D201</b>	13042*	<b>D202</b>	404	<b>D203</b>	406	<b>D204</b>	408	<b>D205</b>	410	<b>D206</b>	412	<b>D207</b>	414	<b>D208</b>	416		
		<b>D211</b>	422	<b>D212</b>	424	<b>D213</b>	426	<b>D214</b>	428	<b>D215</b>	430	<b>D216</b>	432						
<b>D220a</b>	13062	<b>D220b</b>	13064	<b>D220c</b>	13066	<b>D220d</b>	13068												
<b>D221a</b>	13070	<b>D221b</b>	13072	<b>D221c</b>	13074	<b>D221d</b>	13076												
<b>D223a</b>	13010	<b>D223b</b>	13012	<b>D223c</b>	13014	<b>D223d</b>	13016												
<b>D225a</b>	13082	<b>D225b</b>	13084	<b>D225c</b>	13086	<b>D225d</b>	13088												
<b>D226a</b>	13090	<b>D226b</b>	13092																
<b>D228a</b>	13022	<b>D228b</b>	13024	<b>D228c</b>	13026	<b>D228d</b>	13028												
<b>D229a</b>	13030	<b>D229b</b>	13032																
<b>D290</b>	580	<b>D291</b>	582	<b>D292</b>	584	<b>D293</b>	586	<b>D294</b>	588	<b>D295</b>	590	<b>D296</b>	592	<b>D297</b>	594	<b>D298</b>	596	<b>D299</b>	13198*
<b>B) 0</b>	13440	<b>1</b>	13442	<b>2</b>	13444	<b>3</b>	13446	<b>4</b>	13448	<b>5</b>	13450	<b>6</b>	13452	<b>7</b>	13454	<b>8</b>	13456	<b>9</b>	13458
<b>C) 0</b>	13460	<b>1</b>	13462	<b>2</b>	13464	<b>3</b>	13466	<b>4</b>	13468	<b>5</b>	13470	<b>6</b>	13472	<b>7</b>	13474	<b>8</b>	13476	<b>9</b>	13478
<b>D) 0</b>	13480	<b>1</b>	13482	<b>2</b>	13484	<b>3</b>	13486	<b>4</b>	13488	<b>5</b>	13490	<b>6</b>	13492	<b>7</b>	13494	<b>8</b>	13496	<b>9</b>	13498
<b>D300</b>	600	<b>D301</b>	602	<b>D302</b>	604	<b>D303</b>	606	<b>D304</b>	608										
<b>D400</b>	800	<b>D401</b>	802	<b>D402</b>	804	<b>D403</b>	804												
		<b>D481</b>	962	<b>D482</b>	964	<b>D483</b>	966	<b>D484</b>	968	<b>D485</b>	970	<b>D486</b>	972	<b>D487</b>	974	<b>D488</b>	976	<b>D489</b>	978
<b>D490</b>	980	<b>D491</b>	982	<b>D492</b>	984														
<b>D500</b>	1000	<b>D501</b>	1002	<b>D502</b>	1004	<b>D503</b>	1004												
		<b>D581</b>	1162	<b>D582</b>	1164	<b>D583</b>	1166	<b>D584</b>	1168	<b>D585</b>	1170	<b>D586</b>	1172	<b>D587</b>	1174	<b>D588</b>	1176	<b>D589</b>	1178
<b>D590</b>	1180	<b>D591</b>	1182	<b>D592</b>	1184														
<b>D600</b>	1200	<b>D601</b>	1202	<b>D601</b>	1204	<b>D603</b>	1204												
		<b>D681</b>	1362	<b>D682</b>	1364	<b>D683</b>	1366	<b>D684</b>	1368	<b>D685</b>	1370	<b>D686</b>	1372	<b>D687</b>	1374	<b>D688</b>	1376	<b>D689</b>	1378
<b>D690</b>	1380	<b>D691</b>	1382	<b>D692</b>	1384														
		<b>D801</b>	1602	<b>D802</b>	1604	<b>D803</b>	1606	<b>D804</b>	1608	<b>D805</b>	1610	<b>D806</b>	1612	<b>D807</b>	1614	<b>D808</b>	1616	<b>D809</b>	1618
		<b>D811</b>	1622	<b>D812</b>	1624	<b>D813</b>	1626	<b>D814</b>	1628	<b>D815</b>	1630	<b>D816</b>	1632	<b>D817</b>	1634	<b>D818</b>	1636	<b>D819</b>	1638
<b>H)</b>		<b>1</b>	13622	<b>2</b>	13624	<b>3</b>	13626	<b>4</b>	13628	<b>5</b>	13630	<b>6</b>	13632	<b>7</b>	13634	<b>8</b>	13636	<b>9</b>	13638
<b>D900</b>	1800	<b>D901</b>	1802	<b>D902</b>	1804	<b>D903</b>	1806	<b>D904</b>	1808	<b>D905</b>	1810	<b>D906</b>	1812	<b>D907</b>	1814	<b>D908</b>	1816	<b>D909</b>	1818

**Parameters display level (continuation):**

<b>E) 0</b>	13520	<b>1</b>	13522	<b>2</b>	13524	<b>3</b>	13526	<b>4</b>	13528	<b>5</b>	13530	<b>6</b>	13532	<b>7</b>	13534	<b>8</b>	13536	<b>9</b>	13538
<b>F) 0</b>	13540	<b>1</b>	13542	<b>2</b>	13544	<b>3</b>	13546	<b>4</b>	13548	<b>5</b>	13550	<b>6</b>	13552	<b>7</b>	13554	<b>8</b>	13556	<b>9</b>	13558
<b>G) 0</b>	13560	<b>1</b>	13562	<b>2</b>	13564	<b>3</b>	13566	<b>4</b>	13568	<b>5</b>	13570	<b>6</b>	13572	<b>7</b>	13574	<b>8</b>	13576	<b>9</b>	13578

B) D29x, Time (hour.minute) C) D29x Date (day.month) D) D29x, Year (2000..2099)

E) D90x, Time (hour.minute) F) D90x Date (day.month) G) D90x, Year (2000..2099)

H) D81x, Counter without factor

**Parameters hand level:**

Par.	Mod. index	Par.	Mod. index	Par.	Mod. index	Par.	Mod. index	Par.	Mod. index	Par.	Mod. index	Par.	Mod. index	Par.	Mod. index	Par.	Mod. index	Par.	Mod. index
<b>I)</b>		<b>1</b>	17802																
<b>H301</b>	2602	<b>H302</b>	2604	<b>H303</b>	2606	<b>H304</b>	2608	<b>H305</b>	2610	<b>H306</b>	2612								
<b>H351</b>	2702	<b>H352</b>	2704	<b>H353</b>	2706	<b>H354</b>	2708	<b>H355</b>	2710	<b>H356</b>	2712								
<b>H401</b>	2802	<b>H402</b>	2804	<b>H403</b>	2806	<b>H404</b>	2808	<b>H405</b>	2810	<b>H406</b>	2812								
<b>H451</b>	2902	<b>H452</b>	2904	<b>H453</b>	2906	<b>H454</b>	2908	<b>H455</b>	2910	<b>H456</b>	2912								
<b>H520a</b>	13062	<b>H520b</b>	13064	<b>H520c</b>	13066	<b>H520d</b>	13068												
<b>H521a</b>	13070	<b>H521b</b>	13072	<b>H521c</b>	13074	<b>H521d</b>	13076												
<b>H523a</b>	13010	<b>H523b</b>	13012	<b>H523c</b>	13014	<b>H523d</b>	13016												
<b>H525a</b>	13082	<b>H525b</b>	13084	<b>H525c</b>	13086	<b>H525d</b>	13088												
<b>H526a</b>	13090	<b>H526b</b>	13092																
<b>H528a</b>	13022	<b>H528b</b>	13024	<b>H528c</b>	13026	<b>H528d</b>	13028												
<b>H529a</b>	13030	<b>H529b</b>	13032																

I) Set manual mode (0, 1)

Parameters application level:

Par.	Mod. index	Par.	Mod. index	Par.	Mod. index	Par.	Mod. index	Par.	Mod. index	Par.	Mod. index	Par.	Mod. index	Par.	Mod. index	Par.	Mod. index	Par.	Mod. index
		<b>A001</b>	4002 <sup>1)</sup>	<b>A002</b>	4004	<b>A003</b>	4006	<b>A004</b>	4008	<b>A005</b>	4010	<b>A006</b>	4012	<b>A007</b>	4014	<b>A008</b>	4016	A009	4018
<b>A010</b>	4020	<b>A011</b>	4022	<b>A012</b>	4024	<b>A013</b>	4026	<b>A014</b>	4028	<b>A015</b>	4030	<b>A016</b>	4032	<b>A017</b>	4034	<b>A018</b>	4036	A019	4038
<b>A020</b>	4040	<b>A021</b>	4042	<b>A022</b>	4044	<b>A023</b>	4046	<b>A024</b>	4048	<b>A025</b>	4050	<b>A026</b>	4052	<b>A027</b>	4054	<b>A028</b>	4056	A029	4058
<b>A030</b>	4060	<b>A031</b>	4062	<b>A032</b>	4064	<b>A033</b>	4066	<b>A034</b>	4068	<b>A035</b>	4070	<b>A036</b>	4072	<b>A037</b>	4074	<b>A038</b>	4076	A039	4078
<b>A040</b>	4080	<b>A041</b>	4082	<b>A042</b>	4084	<b>A043</b>	4086	<b>A044</b>	8088	<b>A045</b>	4090	<b>A046</b>	4092	<b>A047</b>	4094	<b>A048</b>	4096	A049	4098
<b>A050</b>	4100	<b>A051</b>	4102	<b>A052</b>	4104	<b>A053</b>	4106	<b>A054</b>	4108	<b>A055</b>	4110	<b>A056</b>	4112	<b>A057</b>	4114	<b>A058</b>	4116	A059	4118
<b>A060</b>	4120	<b>A061</b>	4122	<b>A062</b>	4124	<b>A063</b>	4126	<b>A064</b>	4128	<b>A065</b>	4130	<b>A066</b>	4132	<b>A067</b>	4134	<b>A068</b>	4136	A069	4138
<b>A070</b>	4140	<b>A071</b>	4142	<b>A072</b>	4144	<b>A073</b>	4146	<b>A074</b>	4148	<b>A075</b>	4150	<b>A076</b>	4152	<b>A077</b>	4154	<b>A078</b>	4156	A079	4158
<b>A080</b>	4160	<b>A081</b>	4162	<b>A082</b>	4164	<b>A083</b>	4166	<b>A084</b>	4168	<b>A085</b>	4170	<b>A086</b>	4172	<b>A087</b>	4174	<b>A088</b>	4176	A089	4178
<b>A090</b>	4180	<b>A091</b>	4182	<b>A092</b>	4184	<b>A093</b>	4186	<b>A094</b>	4188	<b>A095</b>	4190	<b>A096</b>	4192	<b>A097</b>	4194	<b>A098</b>	4196	A099	4198
<b>A110</b>	4220	<b>A111</b>	4222	<b>A112</b>	4224	<b>A113</b>	4226	<b>A114</b>	4228	<b>A115</b>	4230	<b>A116</b>	4232	<b>A117</b>	4234	<b>A118</b>	4236		
<b>A120</b>	4240	<b>A121</b>	4242	<b>A122</b>	4244	<b>A123</b>	4246	<b>A124</b>	4248	<b>A125</b>	4250	<b>A126</b>	4252	<b>A127</b>	4254	<b>A128</b>	4256		
<b>A130</b>	4260	<b>A131</b>	4262	<b>A132</b>	4264	<b>A133</b>	4266	<b>A134</b>	4268	<b>A135</b>	4270	<b>A136</b>	4272	<b>A137</b>	4274	<b>A138</b>	4276		
<b>A140</b>	4280	<b>A141</b>	4282	<b>A142</b>	4284	<b>A143</b>	4286	<b>A144</b>	4288	<b>A145</b>	4290	<b>A146</b>	4292	<b>A147</b>	4294	<b>A148</b>	4296		
<b>A150</b>	4300	<b>A151</b>	4302	<b>A152</b>	4304	<b>A153</b>	4306	<b>A154</b>	4308	<b>A155</b>	4310	<b>A156</b>	4312	<b>A157</b>	4314	<b>A158</b>	4316		
<b>A160</b>	4320	<b>A161</b>	4322	<b>A162</b>	4324	<b>A163</b>	4326	<b>A164</b>	4328	<b>A165</b>	4330	<b>A166</b>	4332	<b>A167</b>	4334	<b>A168</b>	4336		
<b>A170</b>	4340	<b>A171</b>	4342	<b>A172</b>	4344	<b>A173</b>	4346	<b>A174</b>	4348	<b>A175</b>	4350	<b>A176</b>	4352	<b>A177</b>	4354	<b>A178</b>	4356		
<b>A180</b>	4360	<b>A181</b>	4362	<b>A182</b>	4364	<b>A183</b>	4366	<b>A184</b>	4368	<b>A185</b>	4370	<b>A186</b>	4372	<b>A187</b>	4374	<b>A188</b>	4376		
<b>A210</b>	4420																		
<b>A220</b>	4440																		
<b>A230</b>	4460																		
<b>A240</b>	4480																		
<b>A310</b>	4620	<b>A311</b>	4622	<b>A312</b>	4624	<b>A313</b>	4626	<b>A314</b>	4628	<b>A315</b>	4630	<b>A316</b>	4632	<b>A317</b>	4634	<b>A318</b>	4636		
<b>A320</b>	4640	<b>A321</b>	4642	<b>A322</b>	4644	<b>A323</b>	4646	<b>A324</b>	4648	<b>A325</b>	4650	<b>A326</b>	4652	<b>A327</b>	4654	<b>A328</b>	4656		
<b>A330</b>	4660	<b>A331</b>	4662	<b>A332</b>	4664	<b>A333</b>	4666	<b>A334</b>	4668	<b>A335</b>	4670	<b>A336</b>	4672	<b>A337</b>	4674	<b>A338</b>	4676		
<b>A340</b>	4680	<b>A341</b>	4682	<b>A342</b>	4684	<b>A343</b>	4686	<b>A344</b>	4688	<b>A345</b>	4690	<b>A346</b>	4692	<b>A347</b>	4694	<b>A348</b>	4696		
<b>A350</b>	4700	<b>A351</b>	4702	<b>A352</b>	4704	<b>A353</b>	4706	<b>A354</b>	4708	<b>A355</b>	4710	<b>A356</b>	4712	<b>A357</b>	4714	<b>A358</b>	4716		
<b>A360</b>	4720	<b>A361</b>	4722	<b>A362</b>	4724	<b>A363</b>	4726	<b>A364</b>	4728	<b>A365</b>	4730	<b>A366</b>	4732	<b>A367</b>	4734	<b>A368</b>	4736		
<b>A410</b>	4820	<b>A411</b>	4822					<b>A414</b>	4828	<b>A415</b>	4830	<b>A416</b>	4832	<b>A417</b>	4834	<b>A418</b>	4836		
<b>A420</b>	4840	<b>A421</b>	4842					<b>A424</b>	4848	<b>A425</b>	4850	<b>A426</b>	4852	<b>A427</b>	4854	<b>A428</b>	4856		
<b>A430</b>	4860	<b>A431</b>	4862					<b>A434</b>	4868	<b>A435</b>	4870	<b>A436</b>	4872	<b>A437</b>	4874	<b>A438</b>	4876		
<b>A440</b>	4880	<b>A441</b>	4882					<b>A444</b>	4888	<b>A445</b>	4890	<b>A446</b>	4892	<b>A447</b>	4894	<b>A448</b>	4896		
<b>A450</b>	4900	<b>A451</b>	4902					<b>A454</b>	4908	<b>A455</b>	4910	<b>A456</b>	4912	<b>A457</b>	4914	<b>A458</b>	4916		
<b>A460</b>	4920	<b>A461</b>	4922					<b>A464</b>	4928	<b>A465</b>	4930	<b>A466</b>	4932	<b>A467</b>	4934	<b>A468</b>	4936		

<sup>1)</sup> 4002: write => load application (about 10s)



Par.	Mod. index	Par.	Mod. index	Par.	Mod. index	Par.	Mod. index	Par.	Mod. index	Par.	Mod. index	Par.	Mod. index	Par.	Mod. index	Par.	Mod. index	Par.	Mod. index
P500	5000	P501	5002	P502	5004	P503	5006	P504	5008	P505	5010	P506	5012	P507	5014	P508	5016	P509	5018
P510	5020	P511	5022																
P520	5040	P521	5042	P522	5044	P523	5046	P524	5048	P525	5050	P526	5052	P527	5054	P528	5056	P529	5058
P530	5060	P531	5062	P532	5064	P533	5066	P534	5068	P535	5070	P536	5072	P537	5074	P538	5076	P539	5078
P540	5080	P541	5082	P542	5084	P543	5086	P544	5088	P545	5090	P546	5092	P547	5094	P548	5096		
P550	5100	P551	5102	P552	5104	P553	5106	P554	5108	P555	5110	P556	5112	P557	5114	P558	5116		
P560	5120	P561	5122	P562	5124	P563	5126	P564	5128	P565	5130	P566	5132	P567	5134	P568	5136		
P570	5140	P571	5142	P572	5144	P573	5146	P574	5148	P575	5150	P576	5152	P577	5154	P578	5156		
P580	5160	P581	5162	P582	5164	P583	5166	P584	5168	P585	5170	P586	5172	P587	5174	P588	5176		
P590	5180	P591	5182	P592	5184	P593	5186	P594	5188	P595	5190	P596	5192	P597	5194	P598	5196		
P600	5200	P601	5202	P602	5204	P603	5206	P604	5208	P605	5210								
P610	5220	P611	5222	P612	5224	P613	5226	P614	5228	P615	5230								
P620	5240	P621	5242	P622	5244	P623	5246	P624	5248	P625	5250								
		P631	5262	P632	5264	P633	5266												
		P641	5282	P642	5284	P643	5286												
		P651	5302	P652	5304	P653	5306												
		P661	5322	P662	5324	P663	5326												
		P671	5342	P672	5344	P673	5346												
		P681	5362	P682	5364	P683	5366												
P700	5400	P701	5402	P702	5404	P703	5406	P704	5408	P705	5410	P706	5412	P707	5414	P708	5416	P709	5418
P710	5420	P711	5422	P712	5424	P713	5426	P714	5428	P715	5430	P716	5432	P717	5434	P718	5436	P719	5438
		P721	5442	P722	5444														
		P731	5462	P732	5464														
		P741	5482	P742	5484	P743	5486	P744	5488										
		P751	5502	P752	5504	P753	5506	P754	5508										
		P761	5522	P762	5524	P763	5526	P764	5528	P765	5530	P766	5532						
		P771	5542	P772	5544	P773	5546	P774	5548	P775	5550	P776	5552						
P780	5560	P781	5562	P782	5564	P783	5566	P784	5568	P785	5570	P786	5572	P787	5574	P788	5576	P789	5578
P790	5580	P791	5582	P792	5584	P793	5586	P794	5588	P795	5590	P796	5592	P797	5594	P798	5596	P799	5598
		P801	5602	P802	5604	P803	5606	P804	5608	P805	5610	P806	5612	P807	5614	P808	5616	P809	5618
		P811	5622	P812	5624	P813	5626	P814	5628	P815	5630	P816	5632	P817	5634	P818	5636	P819	5638

Parameters extension level:

Par.	Mod. index	Par.	Mod. index	Par.	Mod. index	Par.	Mod. index	Par.	Mod. index	Par.	Mod. index	Par.	Mod. index	Par.	Mod. index	Par.	Mod. index	Par.	Mod. index
E110	6220	E111	6222	E112	6224	E113	6226	E114	6228	E115	6230	E116	6232	E117	6234	E118	6236		
E120	6240	E121	6242	E122	6244	E123	6246	E124	6248	E125	6250	E126	6252	E127	6254	E128	6256		
E130	6260	E131	6262	E132	6264	E133	6266	E134	6268	E135	6270	E136	6272	E137	6274	E138	6276		
E140	6280	E141	6282	E142	6284	E143	6286	E144	6288	E145	6290	E146	6292	E147	6294	E148	6296		
E150	6300	E151	6302	E152	6304	E153	6306	E154	6308	E155	6310	E156	6312	E157	6314	E158	6316		
E160	6320	E161	6322	E162	6324	E163	6326	E164	6328	E165	6330	E166	6332	E167	6334	E168	6336		
E170	6340	E171	6342	E172	6344	E173	6346	E174	6348	E175	6350	E176	6352	E177	6354	E178	6356		
E180	6360	E181	6362	E182	6364	E183	6366	E184	6368	E185	6370	E186	6372	E187	6374	E188	6376		
E210	6420																		
E220	6440																		
E230	6460																		
E240	6480																		
E310	6620	E311	6622	E312	6624	E313	6626	E314	6628	E315	6630	E316	6632	E317	6634	E318	6636		
E320	6640	E321	6642	E322	6644	E323	6646	E324	6648	E325	6650	E326	6652	E327	6654	E328	6656		
E330	6660	E331	6662	E332	6664	E333	6666	E334	6668	E335	6670	E336	6672	E337	6674	E338	6676		
E340	6680	E341	6682	E342	6684	E343	6686	E344	6688	E345	6690	E346	6692	E347	6694	E348	6696		
E350	6700	E351	6702	E352	6704	E353	6706	E354	6708	E355	6710	E356	6712	E357	6714	E358	6716		
E360	6720	E361	6722	E362	6724	E363	6726	E364	6728	E365	6730	E366	6732	E367	6734	E368	6736		
E410	6820	E411	6822					E414	6828	E415	6830	E416	6832	E417	6834	E418	6836		
E420	6840	E421	6842					E424	6848	E425	6850	E426	6852	E427	6854	E428	6856		
E430	6860	E431	6862					E434	6868	E435	6870	E436	6872	E437	6874	E438	6876		
E440	6880	E441	6882					E444	6888	E445	6890	E446	6892	E447	6894	E448	6896		
E450	6900	E451	6902					E454	6908	E455	6910	E456	6912	E457	6914	E458	6916		
E460	6920	E461	6922					E464	6928	E465	6930	E466	6932	E467	6934	E468	6936		
E510	7020	E511	7022	E512	7024	E513	7026	E514	7028	E515	7030	E516	7032	E517	7034	E518	7036		
E520	7040	E521	7042	E522	7044	E523	7046	E524	7048	E525	7050	E526	7052	E527	7054	E528	7056		
E530	7060	E531	7062	E532	7064	E533	7066	E534	7068	E535	7070	E536	7072	E537	7074	E538	7076		
E540	7080	E541	7082	E542	7084	E543	7086	E544	7088	E545	7090	E546	7092	E547	7094	E548	7096		
E550	7100	E551	7102	E552	7104	E553	7106	E554	7108	E555	7110	E556	7112	E557	7114	E558	7116		
E560	7120	E561	7122	E562	7124	E563	7126	E564	7128	E565	7130	E566	7132	E567	7134	E568	7136		
E570	7140	E571	7142	E572	7144	E573	7146	E574	7148	E575	7150	E576	7152	E577	7154	E578	7156		
E580	7160	E581	7162	E582	7164	E583	7166	E584	7168	E585	7170	E586	7172	E587	7174	E588	7176		
E590	7180	E591	7182	E592	7184	E593	7186	E594	7188	E595	7190	E596	7192	E597	7194	E598	7196		

Par.	Mod. index	Par.	Mod. index	Par.	Mod. index	Par.	Mod. index	Par.	Mod. index	Par.	Mod. index	Par.	Mod. index	Par.	Mod. index	Par.	Mod. index	Par.	Mod. index
E610	7220	E611	7222	E612	7224	E613	7226	E614	7228	E615	7230								
E620	7240	E621	7242	E622	7244	E623	7246	E624	7248	E625	7250								
E630	7260	E631	7262	E632	7264	E633	7266	E634	7268	E635	7270								
E640	7280	E641	7282	E642	7284	E643	7286	E644	7288	E645	7290								
E650	7300	E651	7302	E652	7304	E653	7306	E654	7308	E655	7310								
E660	7320	E661	7322	E662	7324	E663	7326	E664	7328	E665	7330								
E670	7340	E671	7342	E672	7344	E673	7346	E674	7348	E675	7350								
E680	7360	E681	7362	E682	7364	E683	7366	E684	7368	E685	7370								
E690	7380	E691	7382	E692	7384	E693	7386	E694	7388	E695	7390								
E710	7420	E711	7422	E712	7424	E713	7426	E714	7428	E715	7430	E716	7432	E717	7434	E718	7436		
E720	7440	E721	7442	E722	7444	E723	7446	E724	7448	E725	7450	E726	7452	E727	7454	E728	7456		
E730	7460	E731	7462	E732	7464	E733	7466	E734	7468	E735	7470	E736	7472	E737	7474	E738	7476		
E740	7480	E741	7482	E742	7484	E743	7486	E744	7488	E745	7490	E746	7492	E747	7494	E748	7496		
E750	7500	E751	7502	E752	7504	E753	7506	E754	7508	E755	7510	E756	7512	E757	7514	E758	7516		
E760	7520	E761	7522	E762	7524	E763	7526	E764	7528	E765	7530	E766	7532	E767	7534	E768	7536		
E770	7540	E771	7542	E772	7544	E773	7546	E774	7548	E775	7550	E776	7552	E777	7554	E778	7556		
E780	7560	E781	7562	E782	7564	E783	7566	E784	7568	E785	7570	E786	7572	E787	7574	E788	7576		
E790	7580	E791	7582	E792	7584	E793	7586	E794	7588	E795	7590	E796	7592	E797	7594	E798	7596		

Par.	Mod. index	Par.	Mod. index	Par.	Mod. index	Par.	Mod. index	Par.	Mod. index	Par.	Mod. index	Par.	Mod. index	Par.	Mod. index	Par.	Mod. index	Par.	Mod. index
<b>E810</b>	7620	<b>E811</b>	7622	<b>E812</b>	7624	<b>E813</b>	7626	<b>E814</b>	7628	<b>E815</b>	7630	<b>E816</b>	7632	<b>E817</b>	7634	<b>E818</b>	7636	<b>E819</b>	7638
<b>E820</b>	7640	<b>E821</b>	7642	<b>E822</b>	7644	<b>E823</b>	7646	<b>E824</b>	7648	<b>E825</b>	7650	<b>E826</b>	7652	<b>E827</b>	7654	<b>E828</b>	7656	<b>E829</b>	7658
<b>E830</b>	7660	<b>E831</b>	7662	<b>E832</b>	7664	<b>E833</b>	7666	<b>E834</b>	7668	<b>E835</b>	7670	<b>E836</b>	7672	<b>E837</b>	7674	<b>E838</b>	7676	<b>E839</b>	7678
<b>E840</b>	7680	<b>E841</b>	7682	<b>E842</b>	7684	<b>E843</b>	7686	<b>E844</b>	7688	<b>E845</b>	7690	<b>E846</b>	7692	<b>E847</b>	7694	<b>E848</b>	7696	<b>E849</b>	7698
<b>E850</b>	7700	<b>E851</b>	7702	<b>E852</b>	7704	<b>E853</b>	7706	<b>E854</b>	7708	<b>E855</b>	7710	<b>E856</b>	7712	<b>E857</b>	7714	<b>E858</b>	7716	<b>E859</b>	7718
<b>E860</b>	7720	<b>E861</b>	7722	<b>E862</b>	7724	<b>E863</b>	7726	<b>E864</b>	7728	<b>E865</b>	7730	<b>E866</b>	7732	<b>E867</b>	7734	<b>E868</b>	7736	<b>E869</b>	7738
<b>E870</b>	7740	<b>E871</b>	7742	<b>E872</b>	7744	<b>E873</b>	7746	<b>E874</b>	7748	<b>E875</b>	7750	<b>E876</b>	7752	<b>E877</b>	7754	<b>E878</b>	7756	<b>E879</b>	7758
<b>E880</b>	7760	<b>E881</b>	7762	<b>E882</b>	7764	<b>E883</b>	7766	<b>E884</b>	7768	<b>E885</b>	7770	<b>E886</b>	7772	<b>E887</b>	7774	<b>E888</b>	7776	<b>E889</b>	7778
<b>E890</b>	7780	<b>E891</b>	7782	<b>E892</b>	7784	<b>E893</b>	7786	<b>E894</b>	7788	<b>E895</b>	7790	<b>E896</b>	7792	<b>E897</b>	7794	<b>E898</b>	7796	<b>E899</b>	7798
<b>E900</b>	7800	<b>E901</b>	7802	<b>E902</b>	7804	<b>E903</b>	7806	<b>E904</b>	7808	<b>E905</b>	7810	<b>E906</b>	7812	<b>E907</b>	7814	<b>E908</b>	7816	<b>E909</b>	7818
<b>E810</b>	7820	<b>E811</b>	7822	<b>E812</b>	7824	<b>E813</b>	7826	<b>E814</b>	7828	<b>E815</b>	7830	<b>E816</b>	7832	<b>E817</b>	7834	<b>E818</b>	7836	<b>E819</b>	7838
<b>E920</b>	7840	<b>E921</b>	7842	<b>E922</b>	7844	<b>E923</b>	7846	<b>E924</b>	7848	<b>E925</b>	7850	<b>E926</b>	7852	<b>E927</b>	7854	<b>E928</b>	7856	<b>E929</b>	7858
<b>E930</b>	7860	<b>E931</b>	7862	<b>E932</b>	7864	<b>E933</b>	7866	<b>E934</b>	7868	<b>E935</b>	7870	<b>E936</b>	7872	<b>E937</b>	7874	<b>E938</b>	7876	<b>E939</b>	7878
<b>E940</b>	7880	<b>E941</b>	7882	<b>E942</b>	7884	<b>E943</b>	7886	<b>E944</b>	7888	<b>E945</b>	7890	<b>E946</b>	7892	<b>E947</b>	7894	<b>E948</b>	7896	<b>E949</b>	7898
<b>E950</b>	7900	<b>E951</b>	7902	<b>E952</b>	7904	<b>E953</b>	7906	<b>E954</b>	7908	<b>E955</b>	7910	<b>E956</b>	7912	<b>E957</b>	7914	<b>E958</b>	7916	<b>E959</b>	7918
<b>E960</b>	7920	<b>E961</b>	7922	<b>E962</b>	7924	<b>E963</b>	7926	<b>E964</b>	7928	<b>E965</b>	7930	<b>E966</b>	7932	<b>E967</b>	7934	<b>E968</b>	7936	<b>E969</b>	7938
<b>E970</b>	7940	<b>E971</b>	7942	<b>E972</b>	7944	<b>E973</b>	7946	<b>E974</b>	7948	<b>E975</b>	7950	<b>E976</b>	7952	<b>E979</b>	7954	<b>E978</b>	7956	<b>E979</b>	7958
<b>E980</b>	7960	<b>E981</b>	7962	<b>E982</b>	7964	<b>E983</b>	7966	<b>E984</b>	7968	<b>E985</b>	7970	<b>E986</b>	7972	<b>E987</b>	7974	<b>E988</b>	7976	<b>E989</b>	7978
<b>E990</b>	7980	<b>E991</b>	7982	<b>E992</b>	7984	<b>E993</b>	7986	<b>E994</b>	7988	<b>E995</b>	7990	<b>E996</b>	7992	<b>E997</b>	7994	<b>E998</b>	7996	<b>E999</b>	7998

Parameters management level:

Par.	Mod. index	Par.	Mod. index	Par.	Mod. index	Par.	Mod. index	Par.	Mod. index	Par.	Mod. index	Par.	Mod. index	Par.	Mod. index	Par.	Mod. index	Par.	Mod. index
		<b>M001</b>	8002	<b>M002</b>	8004	<b>M003</b>	8006	<b>M004</b>	8008										
<b>M010</b>	8020																		
						<b>M103</b>	8206												
<b>M200</b>	8400	<b>M201</b>	8402	<b>M202</b>	8404	<b>M203</b>	8406												
<b>M400</b>	8800																		
<b>M410</b>	8820																		
<b>M420</b>	8840	<b>M421</b>	8842	<b>M422</b>	8844	<b>M423</b>	8846	<b>M424</b>	8848	<b>M425</b>	8850								
<b>M500</b>	9000																		
<b>M610</b>	9220	<b>M611</b>	9222	<b>M612</b>	9224	<b>M613</b>	9226	<b>M614</b>	9228	<b>M615</b>	9230	<b>M616</b>	9232	<b>M617</b>	9234	<b>M618</b>	9236		
<b>M620</b>	9240	<b>M621</b>	9242	<b>M622</b>	9244	<b>M623</b>	9246	<b>M624</b>	9248	<b>M625</b>	9250	<b>M626</b>	9252	<b>M627</b>	9254	<b>M628</b>	9256		
<b>M630</b>	9260	<b>M631</b>	9262	<b>M632</b>	9264	<b>M633</b>	9266	<b>M634</b>	9268	<b>M635</b>	9270	<b>M636</b>	9272	<b>M637</b>	9274	<b>M638</b>	9276		
<b>M640</b>	9280	<b>M641</b>	9282	<b>M642</b>	9284	<b>M643</b>	9286	<b>M644</b>	9288	<b>M645</b>	9290	<b>M646</b>	9292	<b>M647</b>	9294	<b>M648</b>	9296		
<b>M650</b>	9300	<b>M651</b>	9302	<b>M652</b>	9304	<b>M653</b>	9306	<b>M654</b>	9308	<b>M655</b>	9310	<b>M656</b>	9312	<b>M657</b>	9314	<b>M658</b>	9316		
<b>M660</b>	9320	<b>M661</b>	9322	<b>M662</b>	9324	<b>M663</b>	9326	<b>M664</b>	9328	<b>M665</b>	9330	<b>M666</b>	9332	<b>M667</b>	9334	<b>M668</b>	9336		
<b>M670</b>	9340	<b>M671</b>	9342	<b>M672</b>	9344	<b>M673</b>	9346	<b>M674</b>	9348	<b>M675</b>	9350	<b>M676</b>	9352	<b>M677</b>	9354	<b>M678</b>	9356		
<b>M680</b>	9360	<b>M681</b>	9362	<b>M682</b>	9364	<b>M683</b>	9366	<b>M684</b>	9368	<b>M685</b>	9370	<b>M686</b>	9372	<b>M687</b>	9374	<b>M688</b>	9376		
<b>M690</b>	9380	<b>M691</b>	9382	<b>M692</b>	9384	<b>M693</b>	9386	<b>M694</b>	9388	<b>M695</b>	9390	<b>M696</b>	9392	<b>M697</b>	9394	<b>M698</b>	9396		

Further datapoints (read only):

Par.	Mod. index	Par.	Mod. index	Par.	Mod. index	Par.	Mod. index	Par.	Mod. index	Par.	Mod. index	Par.	Mod. index	Par.	Mod. index	Par.	Mod. index	Par.	Mod. index
<b>MP)</b>		<b>1</b>	12202	<b>2</b>	12204	<b>3</b>	12206	<b>4</b>	12208	<b>5</b>	12210	<b>6</b>	12212	<b>7</b>	12214	<b>8</b>	12216	<b>9</b>	12218
<b>CLK)</b>												<b>1</b>	13812	<b>2</b>	13814	<b>3</b>	13816		
<b>SAL)</b>	13840	<b>AL) 1</b>	13842	<b>AL) 2</b>	13844	<b>AL) 3</b>	13846	<b>AL) 4</b>	13848	<b>AL) 5</b>	13850	<b>AL) 6</b>	13852	<b>AL) 7</b>	13854	<b>AL) 8</b>	13856	<b>AL) 9</b>	13858
<b>ESU)</b>	13860	<b>ESE)</b>	13862	<b>ESY)</b>	13864														

MP) Application measure point

CLK) Clocks status

SAL) Sum alarm, AL) Alarm channel, ESU) Sum error

ESE) Sensor error, ESY) System error

**Application and extension input modules, inputs (read/write):**

Par.	Mod. index	Par.	Mod. index	Par.	Mod. index	Par.	Mod. index	Par.	Mod. index	Par.	Mod. index	Par.	Mod. index	Par.	Mod. index	Par.	Mod. index	Par.	Mod. index
E)		E1	12882	E2	12884	E3	12886	E4	12888	E5	12890	E6	12892	E7	12894	E8	12896		
D)		D1	12902	D2	12904	D3	12906	D4	12908										

E) Input E, D) Input D

**Extension modules, outputs (read only):**

Par.	Mod. index	Par.	Mod. index	Par.	Mod. index	Par.	Mod. index	Par.	Mod. index	Par.	Mod. index	Par.	Mod. index	Par.	Mod. index	Par.	Mod. index	Par.	Mod. index
E)		E1	13762	E2	13764	E3	13766	E4	13768	E5	13770	E6	13772						
D)		D1	13782	D2	13784	D3	13786	D4	13788										
SM)		SM1	13642	SM2	13644	SM3	13646	SM4	13648	SM5	13650	SM6	13652	SM7	13654	SM8	13656	SM9	13658
LM)		LM1	13662	LM2	13664	LM3	13666	LM4	13668	LM5	13670	LM6	13672	LM7	13674	LM8	13676	LM9	13678
CMy)		CM1	13682	CM2	13684	CM3	13686	CM4	13688	CM5	13690	CM6	13692	CM7	13694	CM8	13696	CM9	13698
CMz)		CM1	13702	CM2	13704	CM3	13706	CM4	13708	CM5	13710	CM6	13712	CM7	13714	CM8	13716	CM9	13718
AM)		AM1	13722	AM2	13724	AM3	13726	AM4	13728	AM5	13730	AM6	13732	AM7	13734	AM8	13736	AM9	13738
AM10)	13740	AM11)	13742	AM12)	13744	AM13)	13746	AM14)	13748	AM15)	13750	AM16)	13752	AM17)	13754	AM18)	13756	AM19)	13758

E) Analog input module, D) Digital input module, SM) Output module SM, LM) Output module LM, CM) Output module CM, AM) Output module AM,

**Extension modules, inputs (read/write):**

Par.	Mod. index	Par.	Mod. index	Par.	Mod. index	Par.	Mod. index	Par.	Mod. index	Par.	Mod. index	Par.	Mod. index	Par.	Mod. index	Par.	Mod. index	Par.	Mod. index
Y)		Y1	12922	Y2	12924	Y3	12926	Y4	12928	Y5	12930	Y6	12932						
R)		R1	12942	R2	12944	R3	12946	R4	12948	R5	12950	R6	12952						
SMA)		SM1	12602	SM2	12604	SM3	12606	SM4	12608	SM5	12610	SM6	12612	SM7	12614	SM8	12616	SM9	12618
SMB)		SM1	12622	SM2	12624	SM3	12626	SM4	12628	SM5	12630	SM6	12632	SM7	12634	SM8	12636	SM9	12638
LMA)		LM1	12642	LM2	12644	LM3	12646	LM4	12648	LM5	12650	LM6	12652	LM7	12654	SM8	12656	SM9	12658
LMB)		LM1	12662	LM2	12664	LM3	12666	LM4	12668	LM5	12670	LM6	12672	LM7	12674	LM8	12676	LM9	12678
LMC)		LM1	12682	LM2	12684	LM3	12686	LM4	12688	LM5	12690	LM6	12692	LM7	12694	LM8	12696	LM9	12698
LMD)		LM1	12702	LM2	12704	LM3	12706	LM4	12708	LM5	12710	LM6	12712	LM7	12714	LM8	12716	LM9	12718
CM1)		CM1	12722	CM2	12724	CM3	12726	CM4	12728	CM5	12730	CM6	12732	CM7	12734	CM8	12736	CM9	12738
CM2)		CM1	12742	CM2	12744	CM3	12746	CM4	12748	CM5	12750	CM6	12752	CM7	12754	CM8	12756	CM9	12758
AM1)		AM1	12762	AM2	12764	AM3	12766	AM4	12768	AM5	12770	AM6	12772	AM7	12774	AM8	12776	AM9	12778
AM10)	12780	AM11	12782	AM12	12784	AM13	12786	AM14	12788	AM15	12790	AM16	12792	AM17	12794	AM18	12796	AM19	12798
AM2)		AM1	12802	AM2	12804	AM3	12806	AM4	12808	AM5	12810	AM6	12812	AM7	12814	AM8	12816	AM9	12818
AM10)	12820	AM11	12822	AM12	12824	AM13	12826	AM14	12828	AM15	12830	AM16	12832	AM17	12834	AM18	12836	AM19	12838
AMA)		AM1	12842	AM2	12844	AM3	12846	AM4	12848	AM5	12850	AM6	12852	AM7	12854	AM8	12856	AM9	12858
AM10)	12860	AM11	12862	AM12	12864	AM13	12866	AM14	12868	AM15	12870	AM16	12872	AM17	12874	AM18	12876	AM19	12878
DM1)		DM1	12962	DM2	12964	DM3	12966	DM4	12968	DM5	12970	DM6	12972	DM7	12974	DM8	12976	DM9	12978
DMA)		DM1	13962	DM2	13964	DM3	13966	DM4	13968	DM5	13970	DM6	13972	DM7	13974	DM8	13976	DM9	13978
DM2)		DM1	12982	DM2	12984	DM3	12986	DM4	12988	DM5	12990	DM6	12992	DM7	12994	DM8	12996	DM9	12998
DMB)		DM1	13982	DM2	13984	DM3	13986	DM4	13988	DM5	13990	DM6	13992	DM7	13994	DM8	13996	DM9	13998

Y) Input Y, R) Input R

SMA) Input A module SM, SMB) Input B module SM

LMA) Input A module LM, LMB) Input B module LM, LMC) Input C module LM, LMD) Input D module LM

CM1) Input 1 module CM, CM2) Input 2 module CM, AM1) Input 1 module AM, AM2) Input 2 module AM, AMA) Input A module AM

DM1) Input 1 module DM, DMA) Input A module DM, DM2) Input 2 module DM, DMB) Input B module DM

**Management modules, inputs (read/write):**

AL1)		AL1	13882	AL2	13884	AL3	13886	AL4	13888	AL5	13890	AL6	13892	AL7	13894	AL8	13896	A19	13898
AL2)		AL1	13902	AL2	13904	AL3	13906	AL4	13908	AL5	13910	AL6	13912	AL7	13914	A28	13916	AL9	13918
ALA)		AL1	13922	AL2	13924	AL3	13926	AL4	13928	AL5	13930	AL6	13932	AL7	13934	AL8	13936	AL9	13938
LOG)		LOG1	13942	LOG2	13944	LOG3	13946	LOG4	13948	LOG5	13950								
CLK)		OFF1	12910	OFF2	12912	OFF3	12914	ON1	12916	ON2	12918	ON3	12920						

AL1) Input 1 Alarm module, AL2) Input 2 Alarm module, ALA) Input A Alarm module, LOG1) Input datalogger module CLK1) Input ext clock override

### 3. Domains index tables and structures

Domains index: 0xa000 .. 0xffff

Time/date domain: Modbus index = 0xa000 / 40960

Time/date domain: contents (read/write), length = 8 char = 4 words

Name / Position	Domain byte index	Format / Unit
Reserved, undefined	0	
Day of the week	1	1=monday .. 7=sunday
Year	2	00=2000 to 99=2099
Month	3	1..12
Day of the month	4	1..31
Hours	5	0..23
Minutes	6	0..59
Seconds	7	0..59

Display modul texts (E0x2, E0x6): Short text domain (read/write)

<b>E0x2</b>		<b>E012</b>	45617	<b>E022</b>	45626	<b>E032</b>	45635	<b>E042</b>	45644	<b>E052</b>	45653	<b>E062</b>	45662	<b>E072</b>	45671	<b>E082</b>	45680	<b>E092</b>	45689
<b>E0x6</b>		<b>E016</b>	45698	<b>E026</b>	45707	<b>E036</b>	45716	<b>E046</b>	45725	<b>E056</b>	45734	<b>E066</b>	45743	<b>E076</b>	45752	<b>E086</b>	45761	<b>E096</b>	45770

Modem/Alarm texts (M2xx, M5xx): Short text domain (read/write)

<b>M21x</b>		<b>M214</b>	45896																
<b>M51x</b>		<b>M511</b>	45905	<b>M512</b>	45914	<b>M513</b>	45923	<b>M514</b>	45932	<b>M515</b>	45941	<b>M516</b>	45950						

Short text domain: contents, length = 18 char = 9 words (16 char string + 2 \* 0 terminator)

Alarm texts (M6x9): Text domain (read/write)

<b>M6x9</b>		<b>M619</b>	45345	<b>M629</b>	45362	<b>M639</b>	45379	<b>M649</b>	45396	<b>M659</b>	45413	<b>M669</b>	45430	<b>M679</b>	45447	<b>M689</b>	45464	<b>M699</b>	45481
-------------	--	-------------	-------	-------------	-------	-------------	-------	-------------	-------	-------------	-------	-------------	-------	-------------	-------	-------------	-------	-------------	-------

Modem/Alarm texts (M2xx, M5xx): Text domain (read/write)

<b>M21x</b>		<b>M211</b>	46336	<b>M212</b>	46353	<b>M213</b>	46370	<b>M215</b>	46387	<b>M216</b>	46404	<b>M217</b>	46421	<b>M218</b>	46438	<b>M219</b>	46455		
<b>M230</b>	46472	<b>M231</b>	46489	<b>M232</b>	46506	<b>M233</b>	46523	<b>M234</b>	46540	<b>M235</b>	46557	<b>M236</b>	46574	<b>M237</b>	46591	<b>M238</b>	46608	<b>M239</b>	46625
<b>M240</b>	46642	<b>M241</b>	46659	<b>M242</b>	46676	<b>M243</b>	46693	<b>M244</b>	46710	<b>M245</b>	46727	<b>M246</b>	46744	<b>M247</b>	46761	<b>M248</b>	46778	<b>M249</b>	46795
<b>M51x</b>		<b>M517</b>	46812	<b>M518</b>	46829														

Text domain: contents, length = 34 char = 17 words (32 char string + 2 \* 0 terminator)



**Display level, base, front: Short text domain (read only)**

Pos.	Mod. index	Pos.	Mod. index	Pos.	Mod. index	Pos.	Mod. index	Pos.	Mod. index	Pos.	Mod. index	Pos.	Mod. index	Pos.	Mod. index	Pos.	Mod. index
1 top	47176	2 top	47185	3 top	47194	4 top	47203	5 top	47212	6 top	47221	7 top	47230	8 top	47239	9 top	47248
1 bottom	47266	2 bot.	47275	3 bot.	47284	4 bot.	47293	5 bot.	47302	6 bot.	47311	7 bot.	47320	8 bot.	47329	9 bot.	47338

**Display level, base, middle: Short text domain (read only)**

Pos.	Mod. index	Pos.	Mod. index	Pos.	Mod. index	Pos.	Mod. index	Pos.	Mod. index	Pos.	Mod. index	Pos.	Mod. index	Pos.	Mod. index	Pos.	Mod. index
1 top	47356	2 top	47365	3 top	47374	4 top	47383	5 top	47392	6 top	47401	7 top	47410	8 top	47419	9 top	47428
1 bottom	47446	2 bot.	47455	3 bot.	47464	4 bot.	47473	5 bot.	47482	6 bot.	47491	7 bot.	47500	8 bot.	47509	9 bot.	47518

**Display level, base, behind: Short text domain (read only)**

Pos.	Mod. index	Pos.	Mod. index	Pos.	Mod. index	Pos.	Mod. index	Pos.	Mod. index	Pos.	Mod. index	Pos.	Mod. index	Pos.	Mod. index	Pos.	Mod. index
1 top	47536	2 top	47545	3 top	47544	4 top	47563	5 top	47572	6 top	47581	7 top	47590	8 top	47599	9 top	47608
1 bottom	47626	2 bot.	47635	3 bot.	47644	4 bot.	47653	5 bot.	47662	6 bot.	47671	7 bot.	47680	8 bot.	47689	9 bot.	47698

Short text domain: contents (read only), length = 18 char = 9 words (16 char string + 2 \* 0 terminator)

**Switch points domain: Modbus index**

Switch points channel	1	2	3
Switch point domain mo.	0xc000 / 49152	0xc040 / 49216	0xc080 / 49280
Switch point domain tu.	0xc003 / 49155	0xc043 / 49219	0xc083 / 49283
Switch point domain we.	0xc006 / 49158	0xc046 / 49222	0xc086 / 49286
Switch point domain th.	0xc009 / 49161	0xc049 / 49225	0xc089 / 49289
Switch point domain fr.	0xc00c / 49164	0xc04c / 49228	0xc08c / 49292
Switch point domain sa.	0xc00f / 49167	0xc04f / 49231	0xc08f / 49295
Switch point domain su.	0xc012 / 49170	0xc052 / 49234	0xc092 / 49298

**Switch points domains: contents (read/write), length = 6 char = 3 words**

Name / Position	Domain byte index	Format / Unit
1. on switch point	0	1)
1. off switch point	1	2)
2. on switch point	2	1)
2. off switch point	3	2)
3. on switch point	4	1)
3. off switch point	5	2)

1) Signification of the on switch points values:

- 0: 00:00
- 1: 00:15
- 2: 00:30
- .
- 94: 23:30
- 95: 23:45
- 96: 24:00
- 0xff: undefined

2) Signification of the off switch points values:

- 0x80 + 0: 00:00
- 0x80 + 1: 00:15
- 0x80 + 2: 00:30
- 0x80 + 94: 23:30
- 0x80 + 95: 23:45
- 0x80 + 96: 24:00

Datalogger header domain: Modbus index = 0xa100 / 41216

Datalogger header domain: contents (read only), length = 8 float = 16 words

Name / Position	Float array index	Format
Number of channels	0	0 (no logged datas), 1..n
Start data (year)	1	2000..2099
Start data (month)	2	1..12
Start data (day of month)	3	1..31
Start time (hour)	4	0..23
Start time (minute)	5	0..59
Start time (second)	6	0..59
Scan rate	7	1..1440min

Principles of the datalogger domains:

- The datalogger memory is divided in n domains ( $n = 2048 / 50 = 41..45$ , je nach Anzahl Kanäle)
- Each domain contains an header (channel number, number of entries) + 50 float entries (total: 208Bytes)
- A domain can contains only data to a single channel. So, by channel change, the actual domain contains the last datas for the actual channel and the next domain will contain the first datas for the next channel. So the Layout of the domain depends off the number of channels
- The domains have to been red sequenzialy

Datalogger data domain: Modbus index (0xd000... / 53248)

<b>1. data</b>	0xd000 / 53248	<b>2. data</b>	0xd068 / 53352	<b>3. data</b>	0xd0d0 / 53456	<b>4. data</b>	0xd138 / 53560	<b>5. data</b>	0xd1a0 / 53664
<b>6. data</b>	0xd208 / ..	<b>7. data</b>	0xd270 / ..	<b>8. data</b>	0xd2d8 / ..	<b>9. data</b>	0xd340 / ..	<b>10. data</b>	0xd3a8 / ..
<b>11. data</b>	0xd410 / ..	<b>12. data</b>	0xd478 / ..	<b>13. data</b>	0xd4e0 / ..	<b>14. data</b>	0xd548 / ..	<b>15. data</b>	0xd5b0 / ..
<b>16. data</b>	0xd618 / ..	<b>17. data</b>	0xd680 / ..	<b>15. data</b>	0xd6e8 / ..	<b>19. data</b>	0xd750 / ..	<b>20. data</b>	0xd7b8 / ..
<b>21. data</b>	0xd820 / ..	<b>22. data</b>	0xd888 / ..	<b>23. data</b>	0xd8f0 / ..	<b>24. data</b>	0xd958 / ..	<b>25. data</b>	0xd9c0 / ..
<b>26. data</b>	0xda28 / ..	<b>27. data</b>	0xda90 / ..	<b>28. data</b>	0xdaf8 / ..	<b>29. data</b>	0xdb60 / ..	<b>30. data</b>	0xdbc8 / ..
<b>31. data</b>	0xdc30 / ..	<b>32. data</b>	0xdc98 / ..	<b>33. data</b>	0xdd00 / ..	<b>34. data</b>	0xdd68 / ..	<b>35. data</b>	0xddd0 / ..
<b>36. data</b>	0xde38 / ..	<b>37. data</b>	0xdea0 / ..	<b>38. data</b>	0xdf08 / ..	<b>39. data</b>	0xdf70 / ..	<b>40. data</b>	0xdfd8 / ..
<b>41. data</b>	0xe040 / ..	<b>42. data</b>	0xe0a8 / ..	<b>43. data</b>	0xe110 / ..	<b>44. data</b>	0xe178 / ..	<b>45. data</b>	0xe1e0 / ..

Datalogger **data** domain: contents (read only), length = 52 float = 104 words

Name / Position	Float array index	Format
Channel number	0	0 (no logged datas), 1..n
Number of entries	1	0 (no logged datas), 1..50
First entry	2	1
Second entry	3	2
.		
.		
n <sup>th</sup> entry	101	n

#### **4. Version history**

<b>Version</b>	<b>Change ( description)</b>	<b>Changed</b>	
		<b>Date</b>	<b>Visa</b>
<b>0.90</b>	<b>Basis edition (Beta status)</b>	<b>16.07.2002</b>	<b>Pa</b>
<b>0.91</b>	<b>Extension for modbus master (Beta status)</b>	<b>09.09.2002</b>	<b>Pa</b>
<b>0.92</b>	<b>Text = 33 (34) Characters (Beta status)</b>	<b>05.05.2003</b>	<b>Pa</b>
<b>0.93</b>	<b>Extension for RCL3xx V3.xx</b>	<b>11.01.2006</b>	<b>Pa</b>
<b>1.00</b>	<b>Official edition for software V3.00</b>	<b>16.01.2006</b>	<b>Pa</b>
<b>1.01</b>	<b>Official edition for software V4.00</b>	<b>11.07.2007</b>	<b>smn</b>
<b>1.02</b>	<b>Improvement in the datapoint structure for I/O control</b>	<b>16.11.2010</b>	<b>Pa</b>