

# BASE

## AUTOMAÇÃO

SERVIÇOS . EQUIPAMENTOS . SOLUÇÕES



WAGO - Aplicação de sistema para controle de máquinas.



# Objetivo

- Oferecer uma arquitetura compacta ideal para controle de máquinas.

# Ferramentas utilizadas na solução

- Wago:
  - CPU (IHM Control Panel [CP] 5.7 polegadas com CLP integrado).
- Rede Industriais
  - Rede CanOpen.

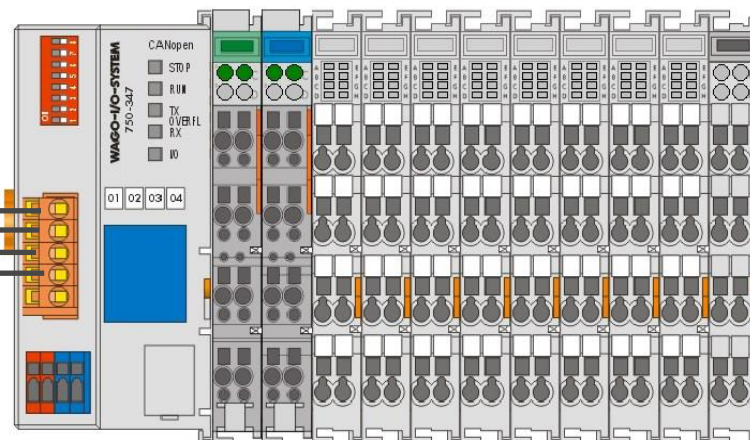
# Arquitetura do Sistema

Control Panel Wago  
IHM/CLP integrado



Rede CanOpen

Remota IO



# Telas da aplicação

Text

**BASE**  
**Automação**

Anlauf 0 s

Version Bedienungspanel 11.004

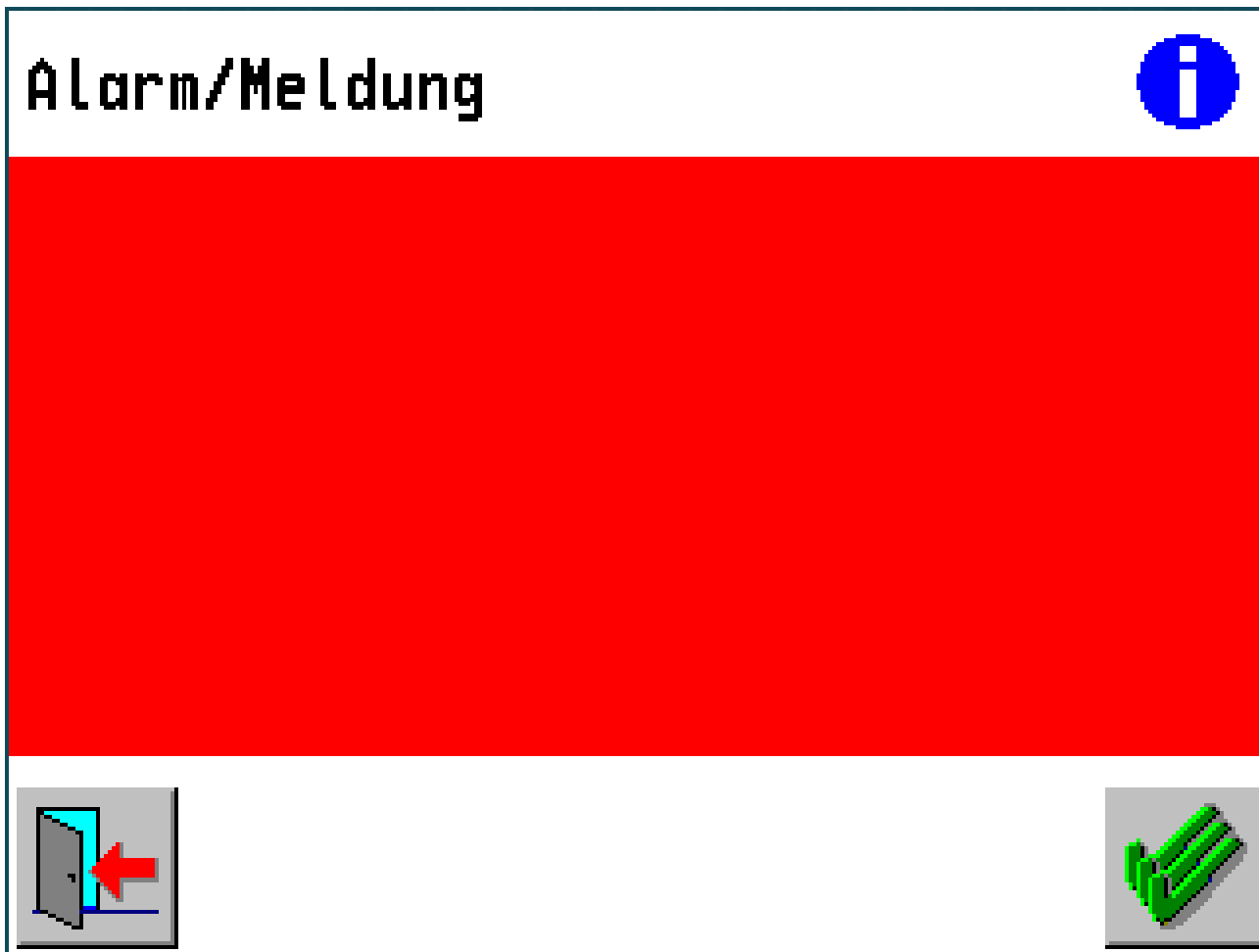
Version Steuerung 0.000




# Telas da aplicação



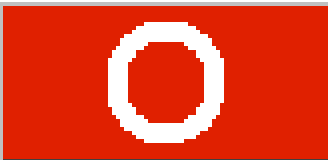
# Telas da aplicação



# Telas da aplicação

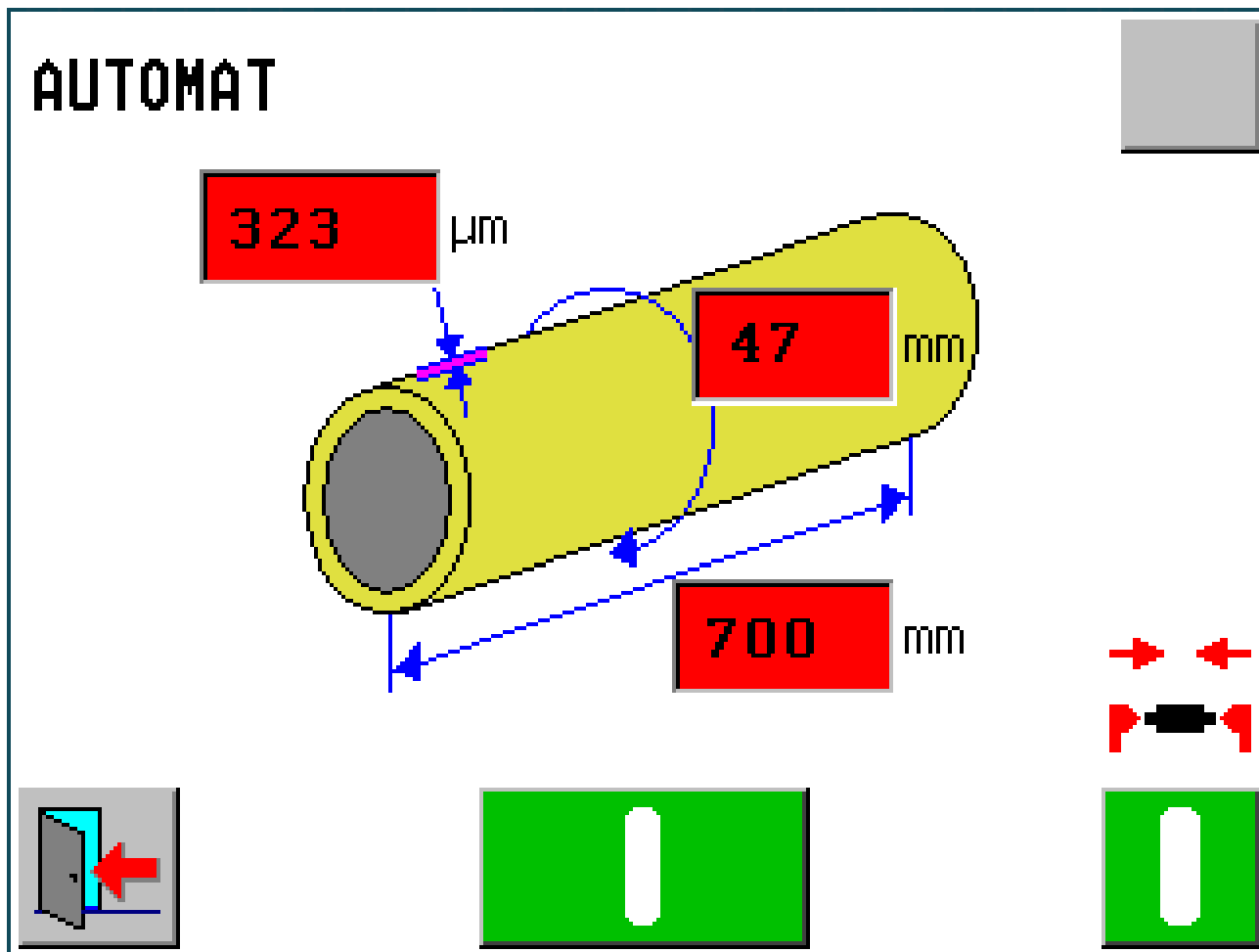
**AUTOMAT RUN** 

Zylinderlänge		22 mm	
Zylinder Umfang		144 mm	
Layer	40 µm	232 µm	
Prozesszeit		191 min	
Badtemperatur	100 °C	98 °C	
Strom	2 A	2 A	
-	-	0	0
-	-		


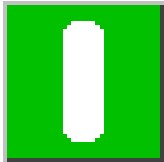

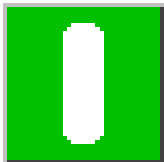



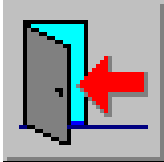


# Telas da aplicação

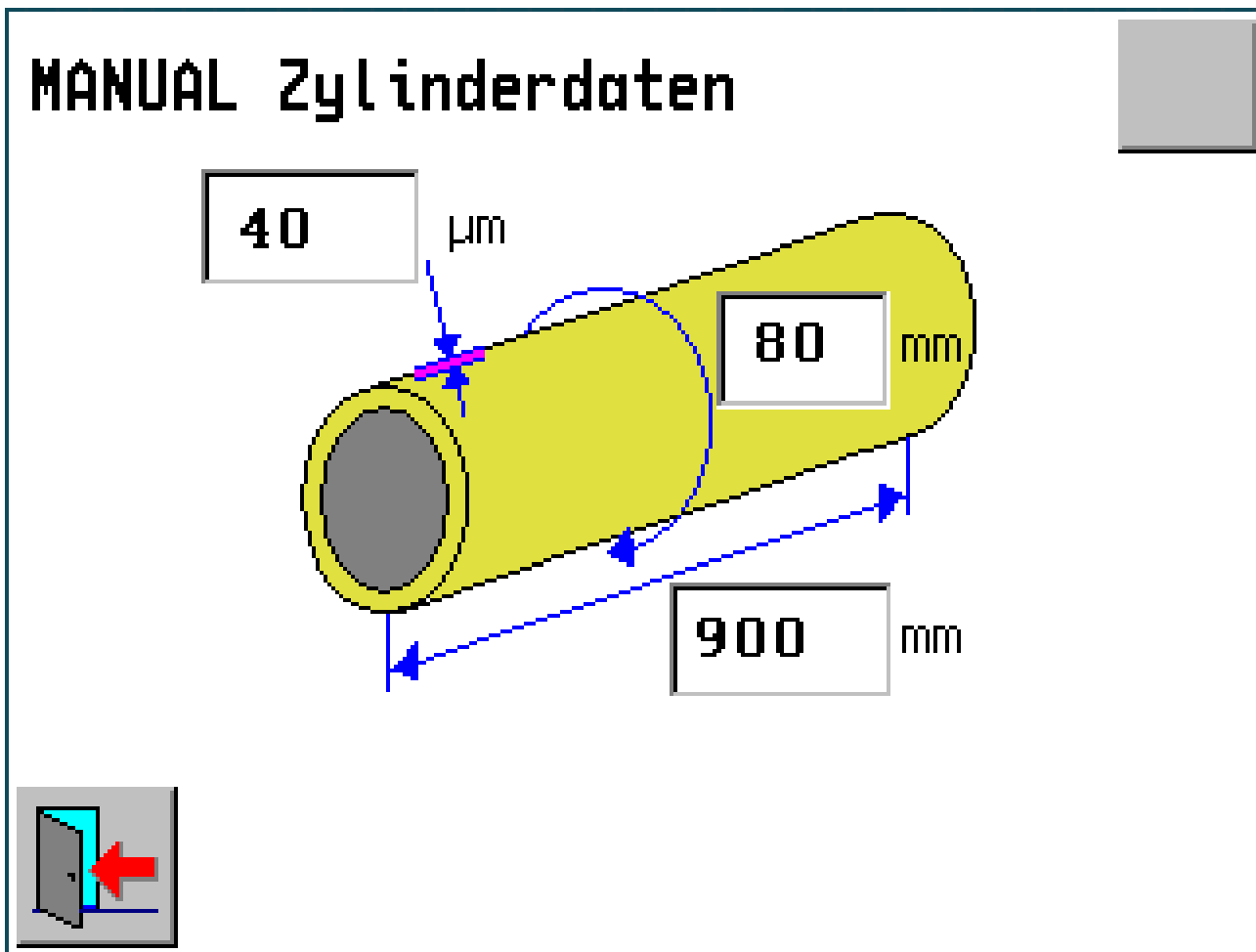


# Telas da aplicação

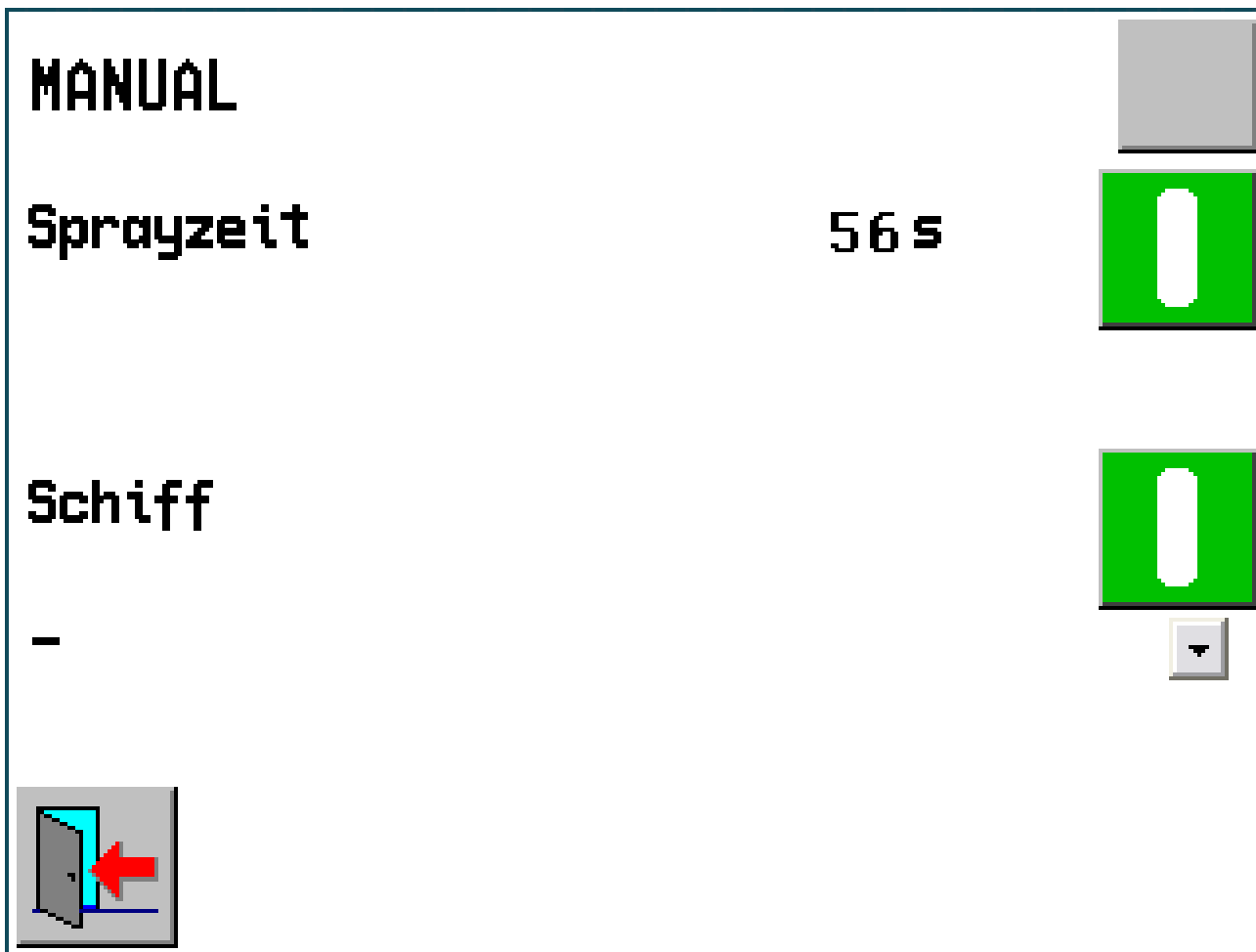
<b>MANUAL</b>		
<b>Soll-Anodeposition</b>	<b>80 mm</b>	
<b>Ist-Anodenposition</b>	<b>44 mm</b>	
<b>-</b>		
<b>Zyl.-Speed</b>	<b>70 RPM</b>	
	<b>66 m/min</b>	
<b>Zyl.-Speed Prozess</b>		




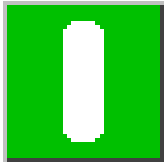


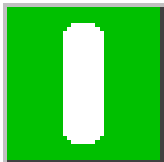


# Telas da aplicação

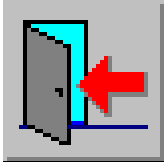


# Telas da aplicação



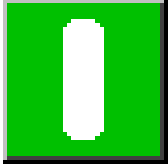

# Telas da aplicação

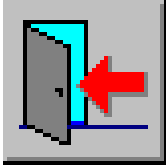
<b>MANUAL</b>		
Soll-Badtemperatur	82 °C	
Ist-Badtemperatur	79 °C	
-		
Füllzeit	40 s	
Rücklaufzeit	32 s	
-		

# Telas da aplicação

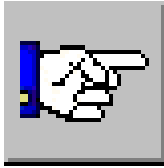
**MANUAL**

Soll-Strom	5 A	
Ist-Strom	5 A	
-		



# Telas da aplicação

**MANUAL Auswahl**

	Temp.Kontrolle Füllen		Sprühen Schiff
	Anode Zyl.-Speed		
	Strom		
			9999 mm Zylinderdaten



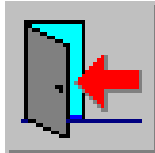
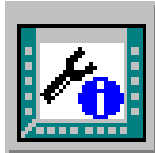
# Telas da aplicação



# Telas da aplicação

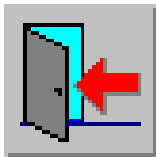
**Allgemeines**

101. Badtemperatur	▼	89	°C
102. Füllzeit	▼	42	s
103. Rücklaufzeit	▼	37	s
104. Sprühzeit	▼	53	s
105. Zyl.-Speed Prozess	▼	776	m/min
106. Zyl.-Speed Spray	▼	872	m/min
107.	▼		-
108.	▼		-

 Deutsch 

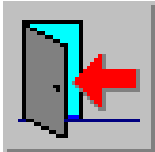
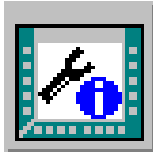
## Bedienungspanel Info

<b>Text</b>		<b>0</b>
<b>Total</b>	<b>I</b>	<b>kA</b>
<b>Programm-Info</b>		<b>Text</b>
Version Bedienungspanel		<b>11.004</b>
Version Steuerung		<b>0.000</b>
<b>Firmware-/Userware Info</b>		
Bezeichnung	<b>Text</b>	<b>Text</b>
Version	<b>Text</b>	<b>0</b>
Datum	<b>Text</b>	<b>Text</b>
Zeit	<b>Text</b>	<b>Text</b>
Download	<b>25.04.2011</b>	<b>13:22:17</b>



# Telas da aplicação

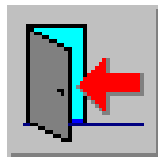
Zylinderdaten	▼		
201. Zylinderlänge min	▼	40	mm
202. Zylinderlänge max	▼	80	mm
203. Zylinderumfang min	▼	300	mm
204. Zylinderumfang max	▼	9999	mm
205. Layer min	▼	40	µm
206. Layer max	▼	999	µm
207.	▼		-
208.	▼		-

# Telas da aplicação

## Einstellungen

P01. Tastatur-Ton	▼	I	-
P02. Touch-Ton	▼	I	-
P03.	▼	I	-
P04. Kontrast normal	▼	I	-
P05. Helligkeit normal	▼	I	-
P06.	▼	I	-
P07. Zeit Schonert	▼	70	s
P08. Helligkeit Schonert	▼	I	-



I Text

# Programação em texto estruturado via CoDeSys

The screenshot displays the CoDeSys software interface. On the left, a project tree shows a hierarchy of folders and files. The 'Prozessabbild' folder is expanded, and 'SchreibeProzessabbild (PRG)' is selected. The main editor area on the right shows a ladder logic program for 'PROGRAM XCalibFun1'. The program includes comments and logic for controlling and monitoring the calibration process.

```
0001 PROGRAM XCalibFun1
0002
0003 (* XCalibFun1 *)
0004 (* Anzeige *)
0005 (* Steuerung *)
0006 IF XCalibStop THEN
0007     XCalibStop := FALSE;
0008     XCalibModus := 99;
0009 END_IF
0010
0011 (* Ablauf *)
0012 CASE XCalibModus OF
0013     0 :
0014         XCalibStop := FALSE;
0015         IF XCalibAktiv THEN
0016             Err_XMinMaxAktiv := FALSE;
0017             XCalibOk := FALSE;
0018             IF (P_XSpeedHandFast > P_XSpeedEichung) THEN
0019                 XSolliSpeed := P_XSpeedEichung;
0020             ELSE
0021                 XSolliSpeed := P_XSpeedHandFast;
0022             END_IF
0023
0024             IF (P_XEichPos > 0) THEN
0025                 IF XIstPos > P_XEichPos THEN
0026                     XCalibModus := 1;
0027                 ELSE
0028                     XCalibModus := 11;
0029                 END_IF
0030             ELSE
0031                 IF XIstPos < P_XEichPos THEN
0032                     XCalibModus := 11;
0033                 ELSE
0034                     XCalibModus := 1;
```

# Declaração de variáveis - CoDeSys

The screenshot displays the CoDeSys software interface. On the left, a tree view under 'Data types' shows 'DefProg (STRUCT)' and 'DefStep (STRUCT)'. The main editor area shows a ladder logic network with the following code:

```
0001 TYPE DefProg :  
0002 STRUCT  
0003     Step      : ARRAY[1..16] OF DefStep;  
0004 END_STRUCT  
0005 END_TYPE
```

The interface includes a menu bar (File, Edit, Project, Insert, Extras, Online, Window, Help), a toolbar with various icons, and a status bar at the bottom with tabs for 'POUs', 'Data types', 'Visualizations', and 'Resources'.



# Recursos - CoDeSys

The screenshot shows the CoDeSys IDE interface. On the left, the 'Resources' window displays a tree view of project resources. The 'Global Variables' folder is expanded, showing sub-folders like 'CanOpen implicit Variables (CONSTANT)', 'Data\_points', 'Datenpunkte', 'Eingang\_Ausgang', 'Globale\_Variablen', 'Input\_Output', and 'Variablen\_Konfiguration (VAR\_CONFIG)'. Below these are several library folders, with 'library 3S\_CANopenManager.lib' selected. The main editor area on the right shows the following code:

```
0001 VAR_GLOBAL CONSTANT
0002   CANMAX_RX_INDEX   : INT := 50;
0003   CANMAX_TX_INDEX   : INT := 50;
0004   CANMAX_CALLBACKS  : INT := 4;
0005 END_VAR
0006 VAR_GLOBAL
0007   pCanRxBuffer       : ARRAY[0..MAX_CTRLINDEX] OF ARRAY[0..CANMAX_RX_INDEX] OF CAN_Message;
0008   pCanTxBuffer       : ARRAY[0..MAX_CTRLINDEX] OF ARRAY[0..CANMAX_TX_INDEX] OF CAN_Message;
0009   pCanCallBack       : ARRAY[0..MAX_CTRLINDEX] OF ARRAY[0..CANMAX_CALLBACKS] OF CAN_CallBack;
0010 END_VAR
0011
0012
0013
0014
0015
0016
0017
0018
0019
0020
0021
0022
0023
0024
0025
0026
0027
0028
0029
0030
0031
0032
0033
0034
0035
0036
0037
```

# Contatos



# BASE

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