

Bem-vindo à PHOENIX CONTACT

Relatórios em Tempo Real

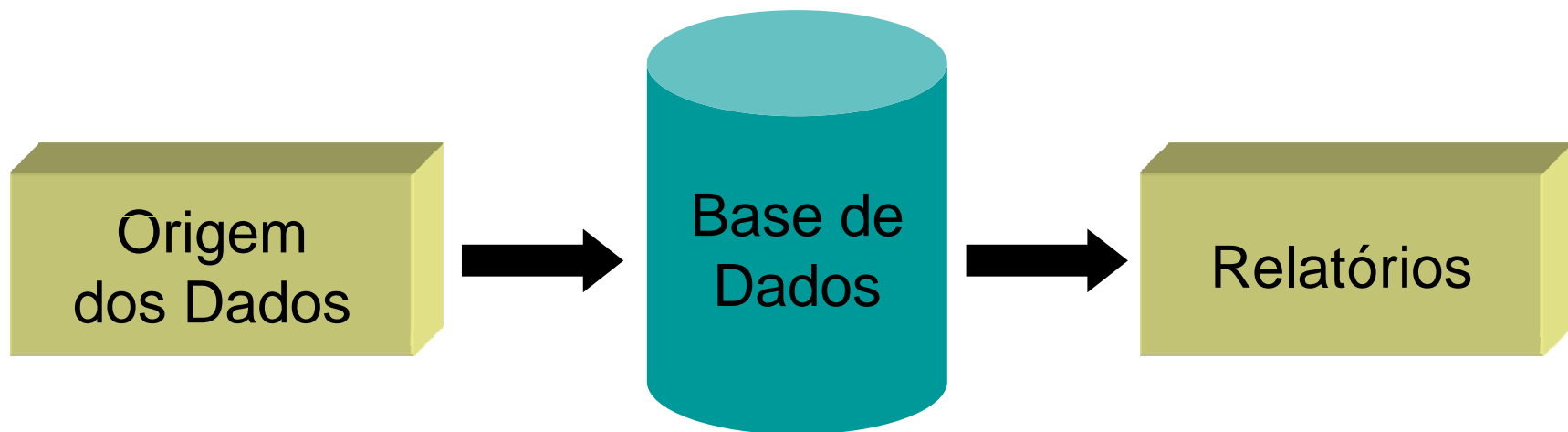
Carlos Coutinho
Especialista de Interface e
Automação da Phoenix Contact



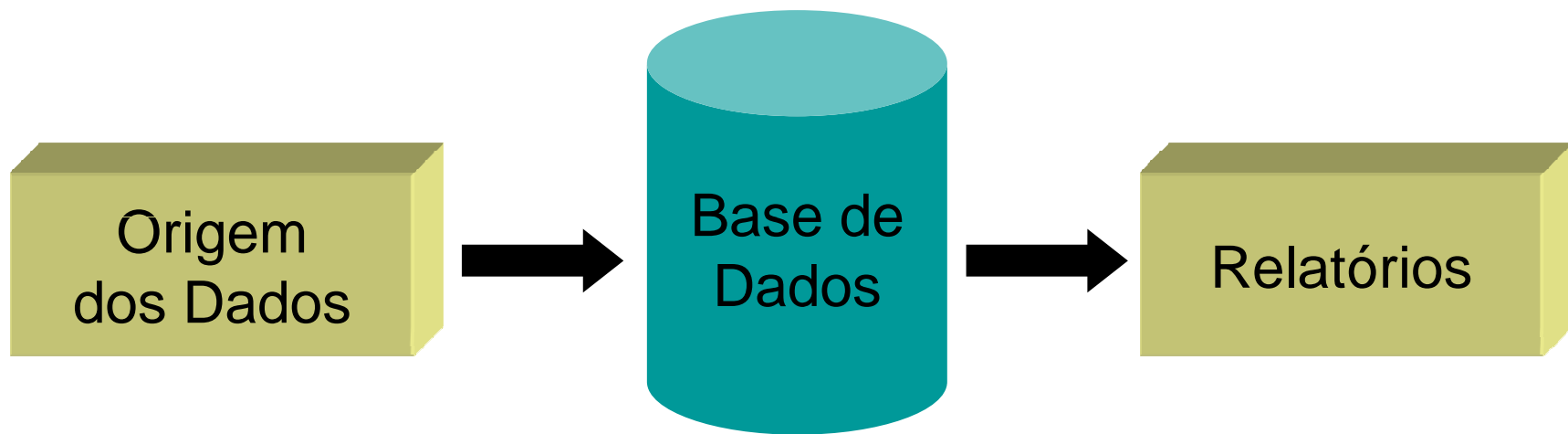
Exemplos de Relatórios de Tempo Real

- Consumo de Energia
- Produção e/ou Controlo de Qualidade
- Disponibilidade (inclui *downtime*)
- Meteorologia (energias renováveis)

O que têm os relatórios em comum?



O que são relatórios em tempo real?



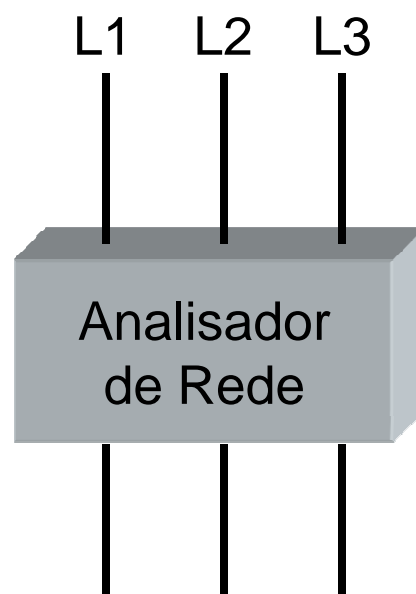
Actualizada em Tempo Real

Exemplo

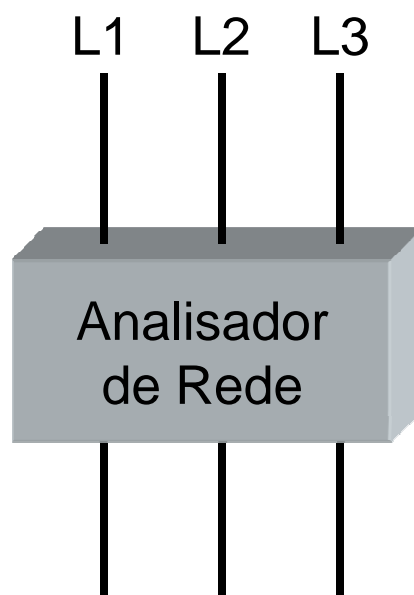
Relatório em Tempo Real

do Consumo de Energia Eléctrica

Aquisição dos consumos de energia

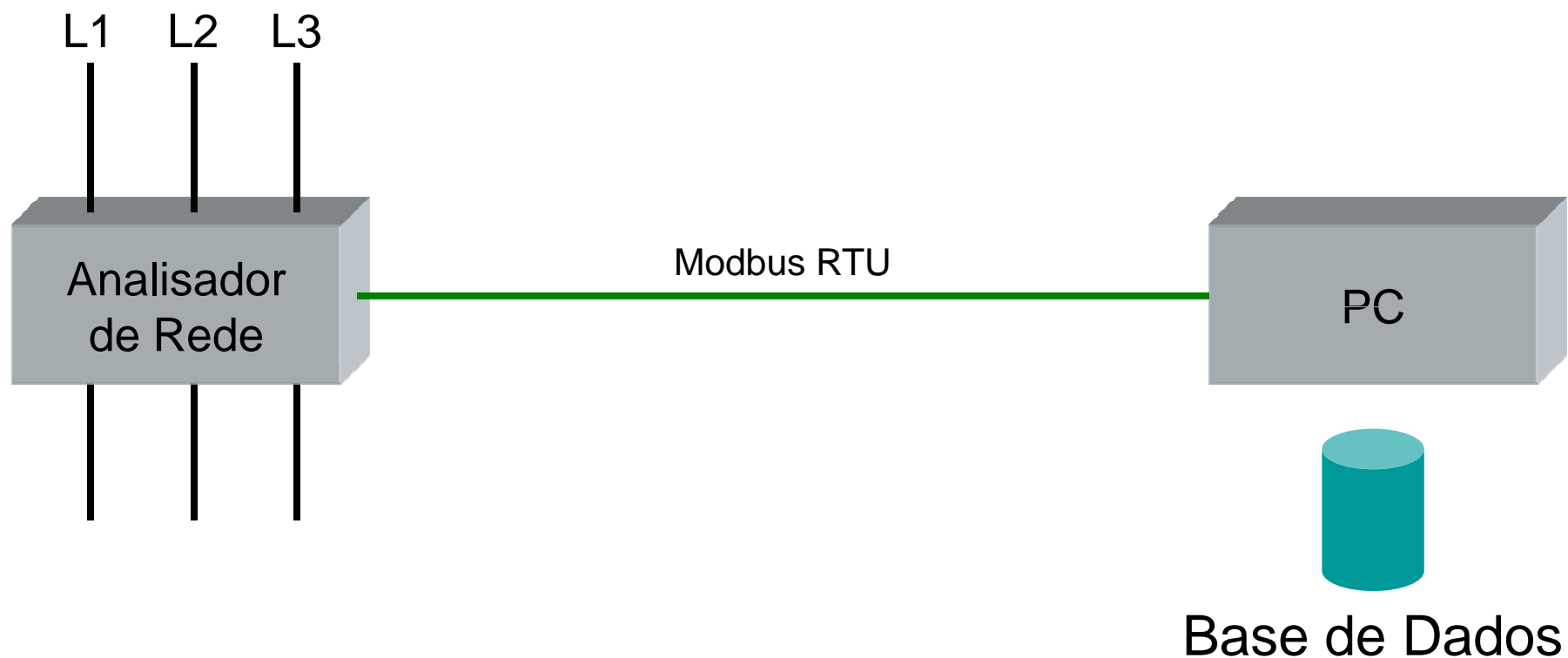


Aquisição dos consumos de energia

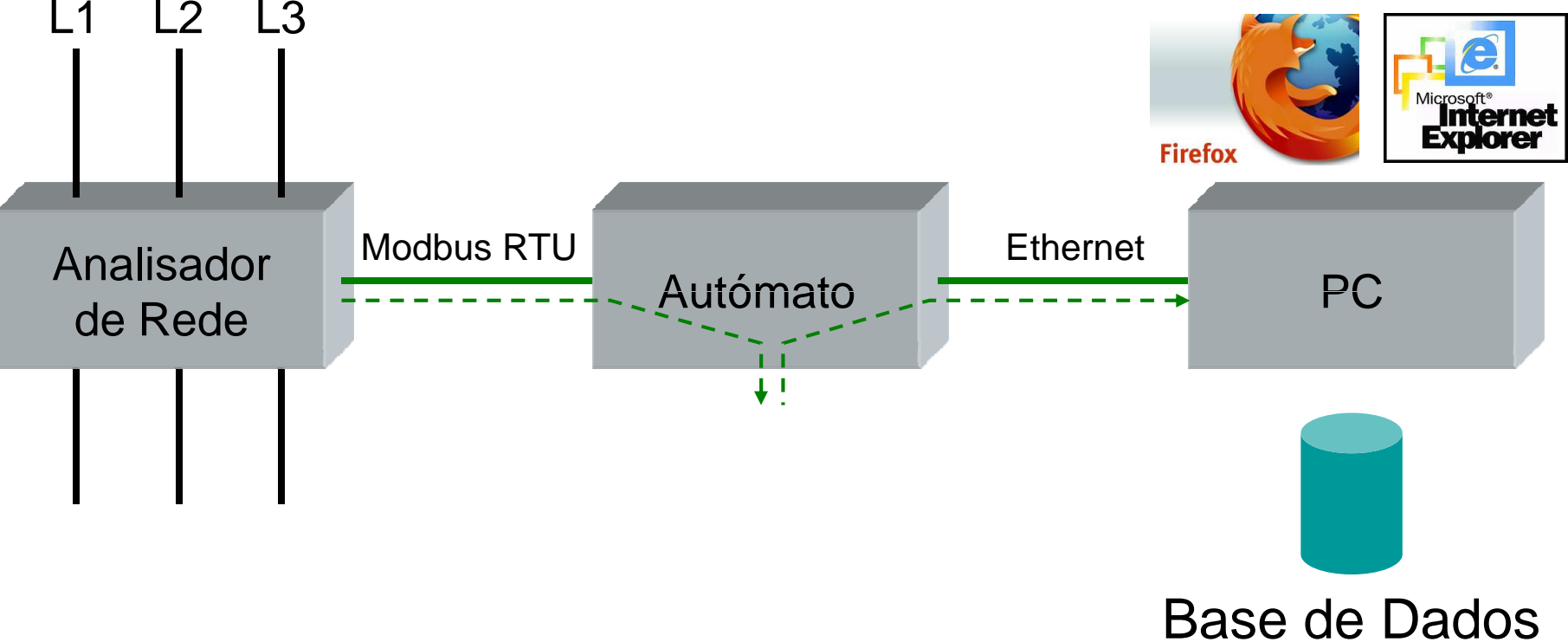


Base de Dados

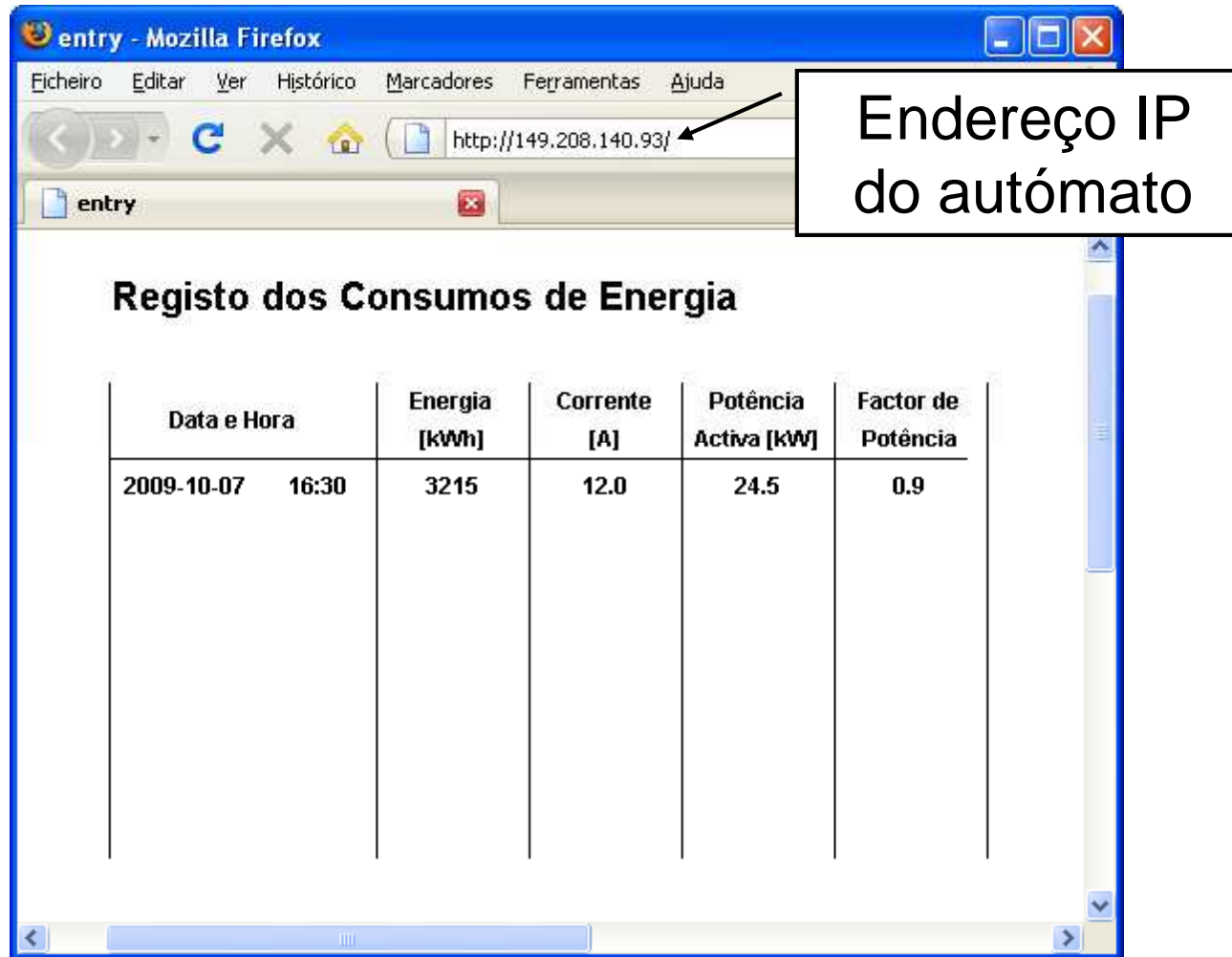
Aquisição dos consumos de energia



Aquisição dos consumos de energia



Exemplo de uma tabela



entry - Mozilla Firefox

Ficheiro Editar Ver Histórico Marcadores Ferramentas Ajuda

http://149.208.140.93/

entry

Registo dos Consumos de Energia

Data e Hora	Energia [kWh]	Corrente [A]	Potência Activa [kW]	Factor de Potência
2009-10-07 16:30	3215	12.0	24.5	0.9

De que autômato estou a falar?

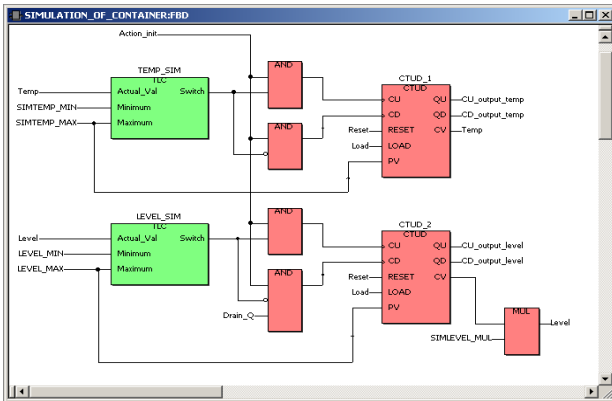


Diagrama de Blocos de Função

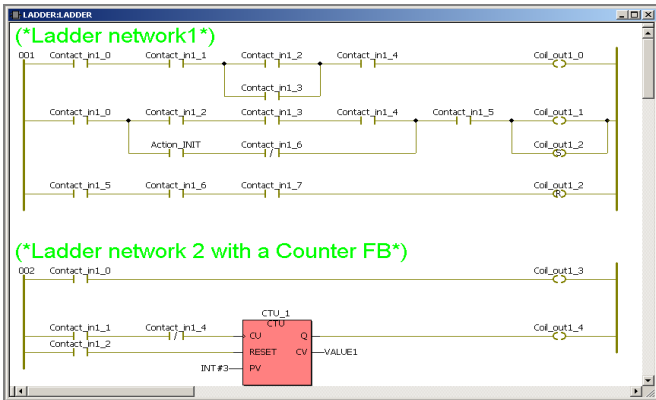
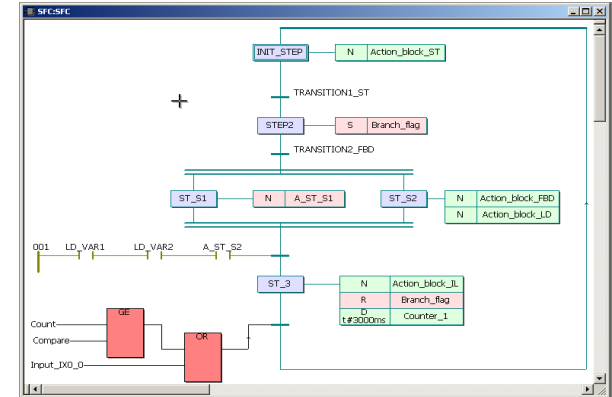


Diagrama de Contactos

Linguagens de Programação

```
ST:CON_TEXT
1 (*Generate Text for Intake*)
2 IF Intake THEN
3   TEXT:=CONCAT(TEXT_1,' Intake: OPEN ');
4 ELSE
5   TEXT:=CONCAT(TEXT_1,' Intake: CLOSE ');
6 END_IF;
7
8 (*Generate Text for Haeter*)
9 IF Heater THEN
10  TEXT:=CONCAT(TEXT,' Heater: ON ');
11 ELSE
12  TEXT:=CONCAT(TEXT,' Heater: OFF ');
13 END_IF;
14
15 (*Generate Text for Drain*)
16 IF Drain THEN
17  TEXT:=CONCAT(TEXT,' Drain: OPEN ');
18 ELSE
19  TEXT:=CONCAT(TEXT,' Drain: CLOSE ');
20 END_IF;
21
22 Level_Text := INT_TO_STRING (Level,'%ld');
23 Temp_Text := INT_TO_STRING (Temp,'%ld');
24
25
26 Text_Value := CONCAT (TEXT_2,'Level: ');
27 Text_Value := CONCAT (Text_Value,Level_Text);
28 Text_Value := CONCAT (Text_Value,' Liter');
29 Text_Value := CONCAT (Text_value,' Temperature: ');
30 Text_Value := CONCAT (Text_value,Temp_Text);
31 Text_Value := CONCAT (Text_Value,' Grad');
32
33
34
```

Texto Estruturado



Grafcet

```
IL:IL
3 OR Action_INIT
4 ST IL_VAR
5
6 LD Input_IN_0
7 JMPC MANUAL
8
9 (*Timer FB TON*)
10 LD Timer_start
11 ST TON_IL.IN
12 LD PT_TON_IL
13 ST TON_IL.PT
14 CAL TON_IL
15 LD TON_IL.Q
16 ST Action_INIT
17 STN Timer_start
18 LD TON_IL.ET
19 ST Timer_value
20
21 MANUAL:
22
23 LD Temp
24 ADD Level
25 GT 800
26 ST Warning
27
28 LD Output_1
29 ADD 1000
30 ST Output_1
31
32 (*Function block TLC is called*)
33 (*The TLC Functionblock is a two level controller*)
34 LD Actual_value
35 ST TLC_1.Actual_Val
36 LD Minimum
```

Lista de Instruções

De que autômato estou a falar?

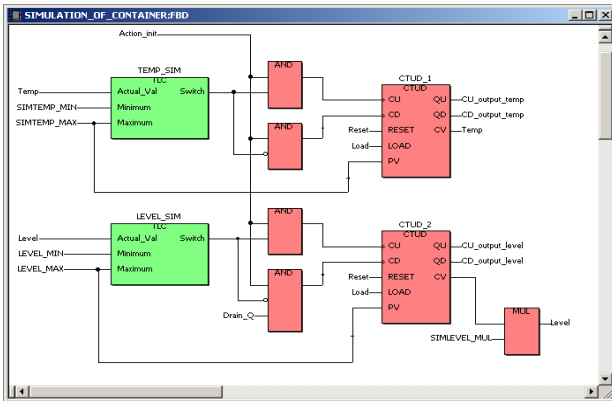


Diagrama de Blocos de Função

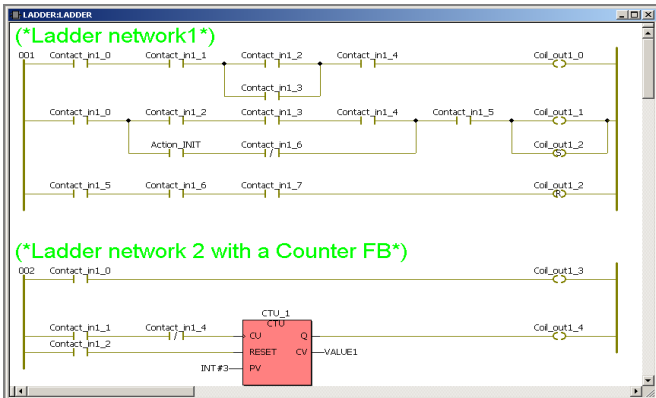
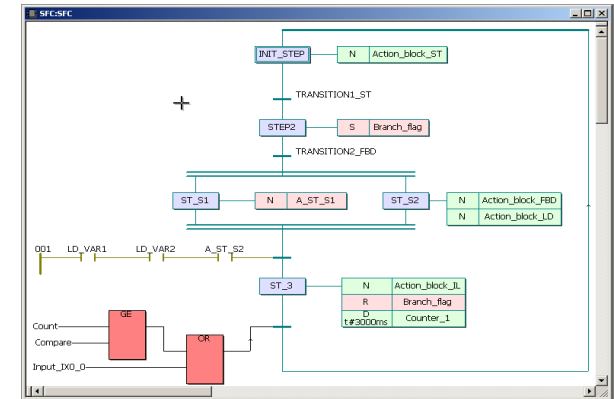


Diagrama de Contactos

Linguagens de Programação

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29 Text_Value := CONCAT (Text_value, ' Temperature: ');
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31 Text_Value := CONCAT (Text_Value,' Grad');
32
33
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```

Texto Estruturado



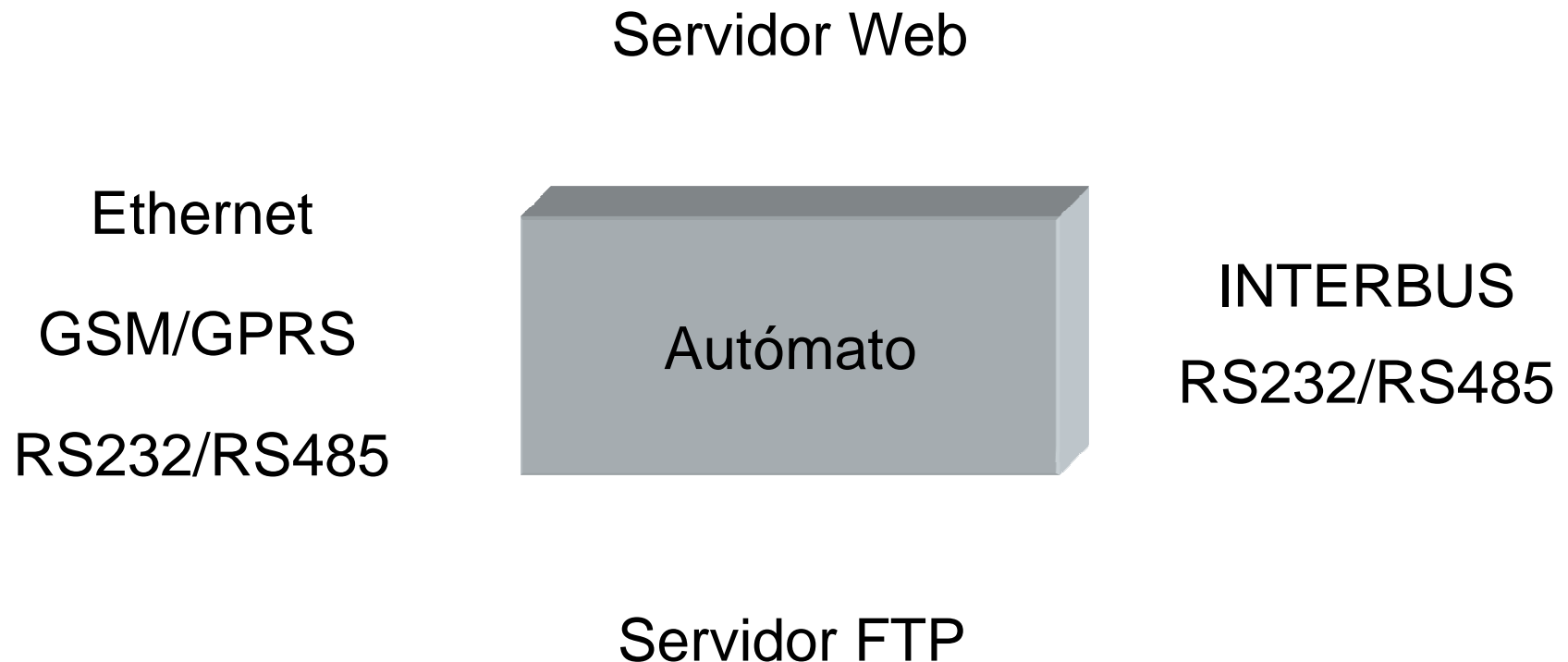
Grafcet

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24 ADD Level
25 GT 800
26 ST Warning
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28 LD Output_1
29 ADD 1000
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32 (*Function block TLC is called*)
33 (*The TLC Functionblock is a two level controller*)
34 LD Actual_value
35 ST TLC_1.Actual_Val
36 LD Minimum
```

Lista de Instruções

De que autômato estou a falar?

Integração de Tecnologias de Informação e Telecomunicações



SNMP: *Simple Network Management Protocol*

De que automático estou a falar?

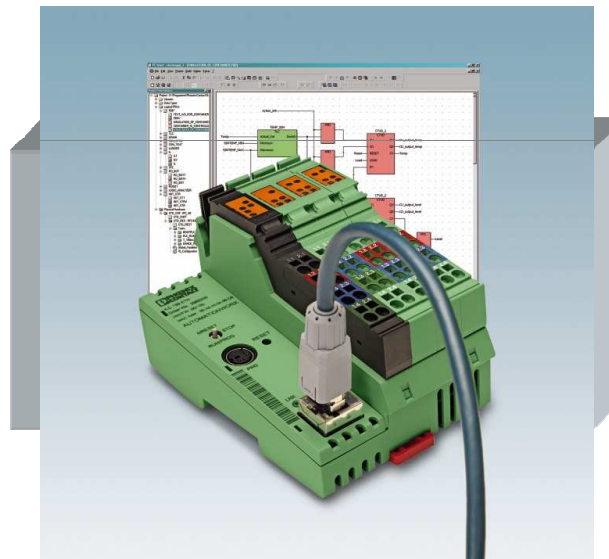
Integração de ILC – INLINE CONTROLLER tecnologias de informação e telecomunicações

Servidor Web

Ethernet

GSM/GPRS

RS232/RS485



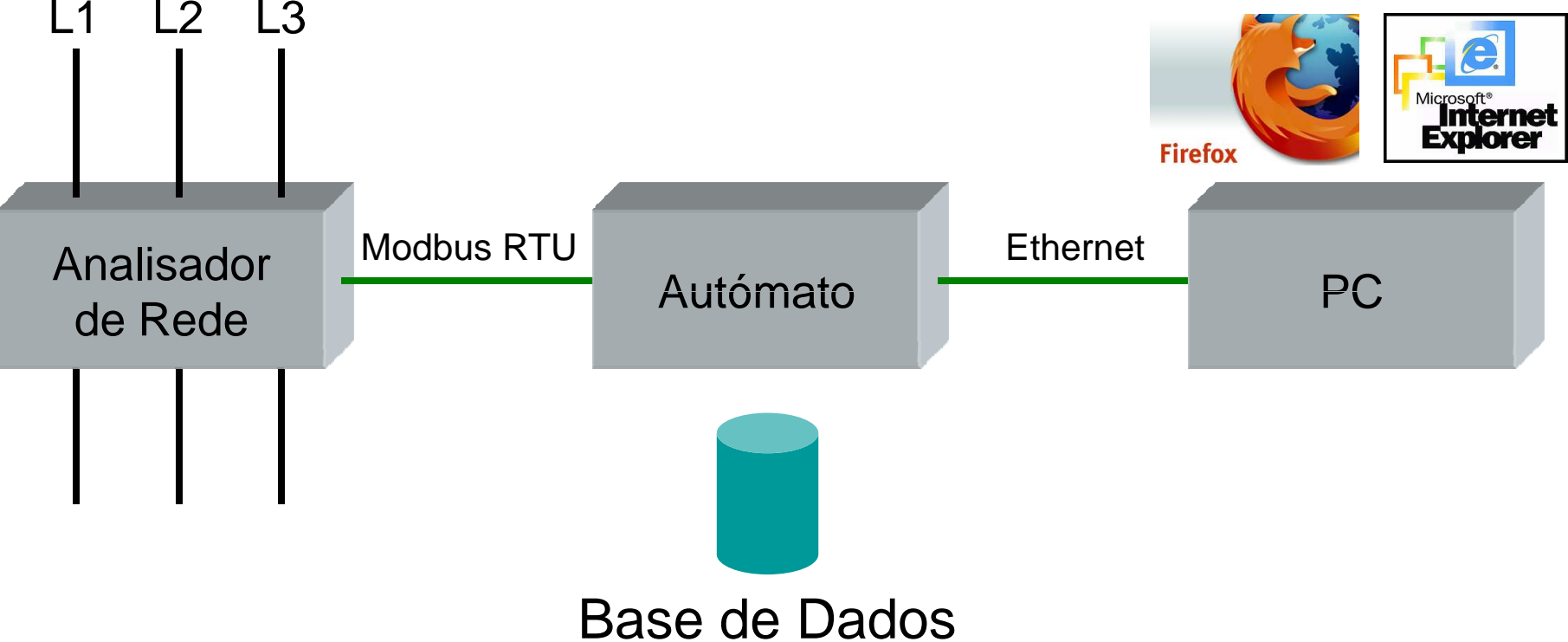
INTERBUS

RS232/RS485

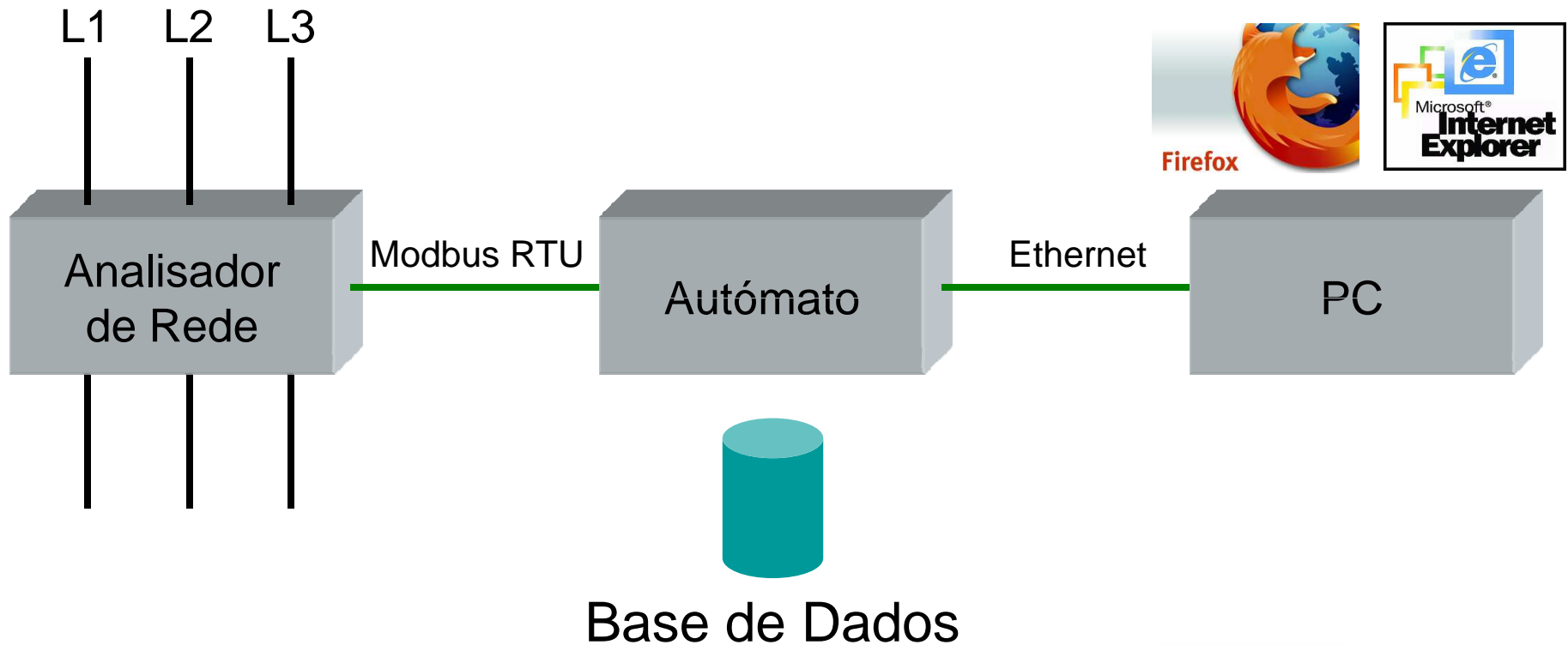
Servidor FTP

SNMP: *Simple Network Management Protocol*

Voltando ao exemplo...

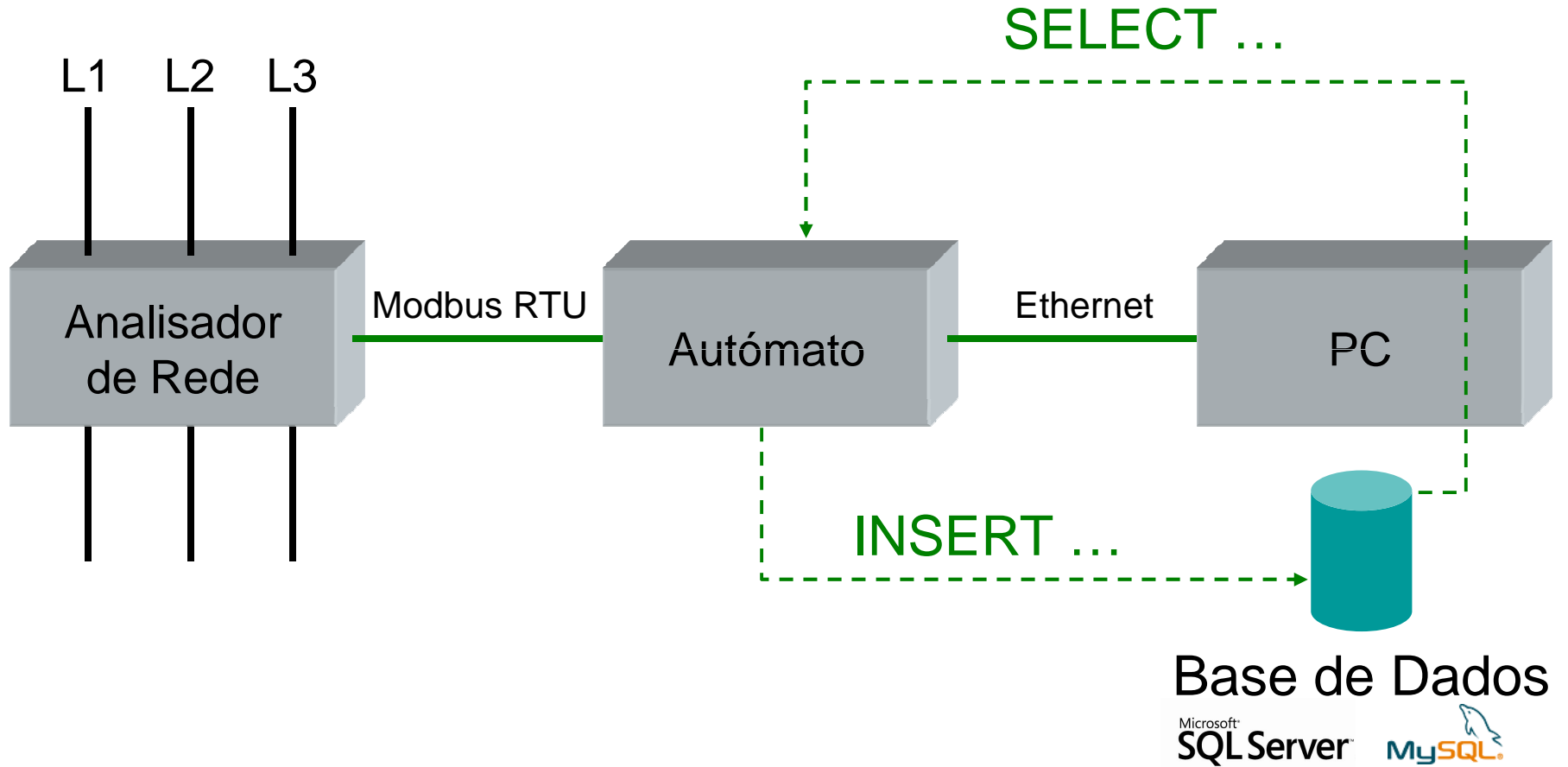


E quando há muitos dados?

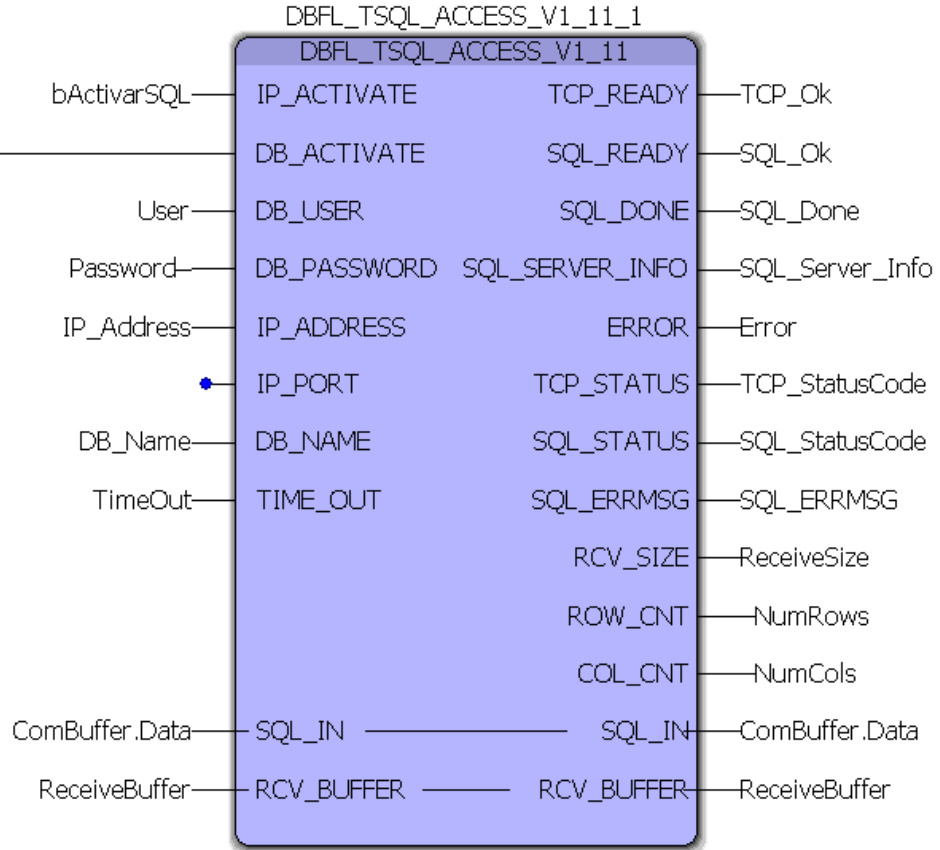


Microsoft
SQL Server™ MySQL

O autômato “fala” SQL



Função de diálogo com a base de dados SQL



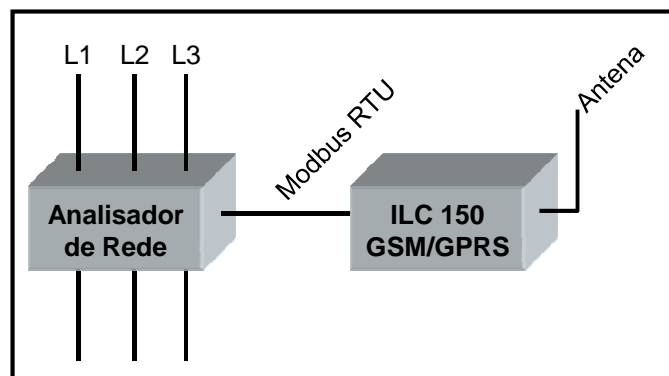
Visualizar a base de dados SQL

The screenshot displays the Microsoft SQL Server Management Studio interface. The main window shows a query executed in the 'master' server context. The query is: `SELECT * FROM [ILC].[dbo].[ConsumosEnergia]`. The results are displayed in a table with the following columns: Data e Hora, Energia (kWh), Corrente (A), Potência Activa (w), and Factor de Potência. The results show data for 1327 rows, with the last row being 1349. The status bar at the bottom indicates 'Query executed successfully... LISNB7001\SQLEXPRESS (9.0 SP2) sa (53) master 00:00:01 1349 rows'.

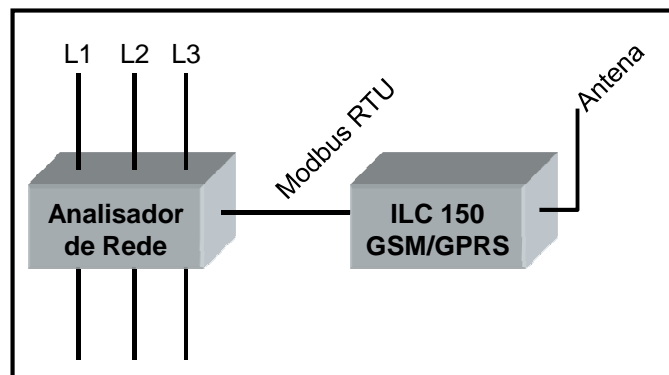
	Data e Hora	Energia (kWh)	Corrente (A)	Potência Activa (w)	Factor de Potência
1327	2009-10-13 11:25:50.000	0.200000	0.123000	10.000000	-0.348000
1328	2009-10-13 11:26:00.000	0.200000	0.122000	9.700000	-0.361000
1329	2009-10-13 11:26:10.000	0.200000	0.124000	10.100000	-0.341000
1330	2009-10-13 11:26:20.000	0.200000	0.122000	9.800000	-0.343000
1331	2009-10-13 11:26:30.000	0.200000	0.122000	10.000000	-0.350000
1332	2009-10-13 11:26:40.000	0.200000	0.125000	10.500000	-0.346000
1333	2009-10-13 11:26:50.000	0.200000	0.121000	9.700000	-0.342000
1334	2009-10-13 11:27:00.000	0.200000	0.121000	9.800000	-0.356000
1335	2009-10-13 11:27:10.000	0.200000	0.122000	9.900000	-0.347000
1336	2009-10-13 11:27:20.000	0.200000	0.121000	10.000000	-0.335000
1337	2009-10-13 11:27:30.000	0.200000	0.121000	9.800000	-0.346000
1338	2009-10-13 11:27:40.000	0.200000	0.121000	9.900000	-0.349000
1339	2009-10-13 11:27:50.000	0.200000	0.121000	10.000000	-0.353000
1340	2009-10-13 11:28:00.000	0.200000	0.121000	9.700000	-0.349000
1341	2009-10-13 11:28:10.000	0.200000	0.121000	9.500000	-0.352000
1342	2009-10-13 11:28:20.000	0.200000	0.121000	9.500000	-0.335000
1344	2009-10-13 11:28:40.000	0.200000	0.123000	9.900000	-0.347000
1345	2009-10-13 11:28:50.000	0.200000	0.121000	10.000000	-0.353000
1346	2009-10-13 11:29:00.000	0.200000	0.121000	9.800000	-0.346000
1347	2009-10-13 11:29:10.000	0.200000	0.121000	10.000000	-0.353000
1348	2009-10-13 11:29:20.000	0.200000	0.121000	9.900000	-0.349000
1349	2009-10-13 11:29:30.000	0.200000	0.121000	10.200000	-0.335000

Aquisição remota de consumos de energia

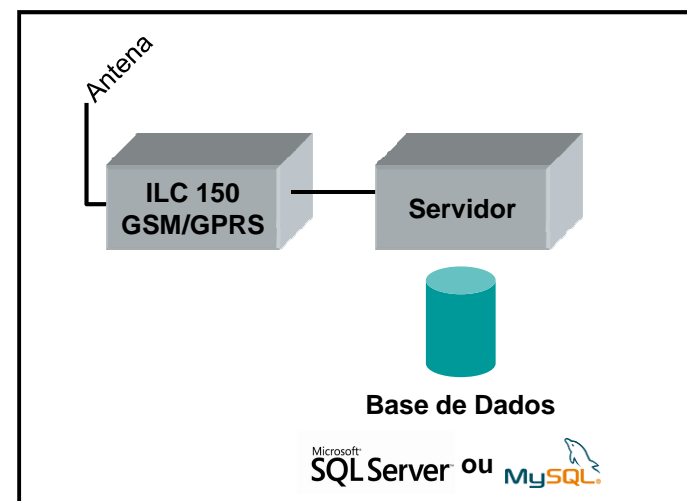
Loja x



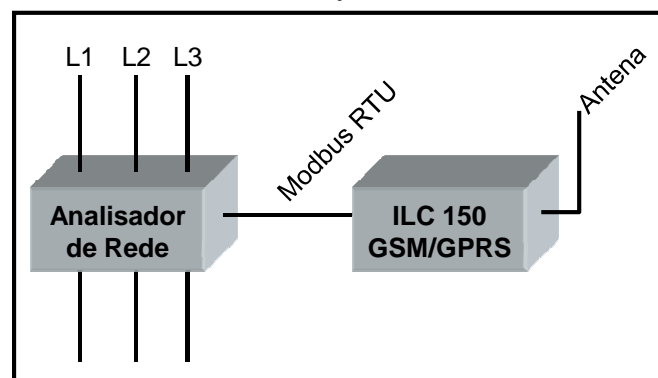
Loja y



Centro de Gestão



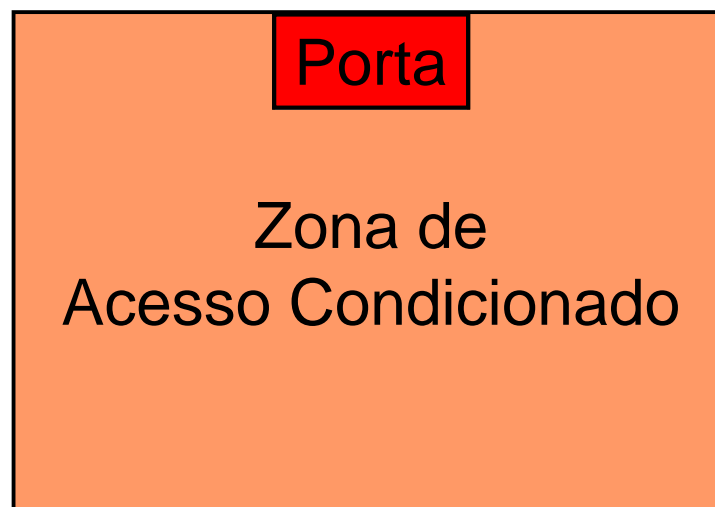
Loja z



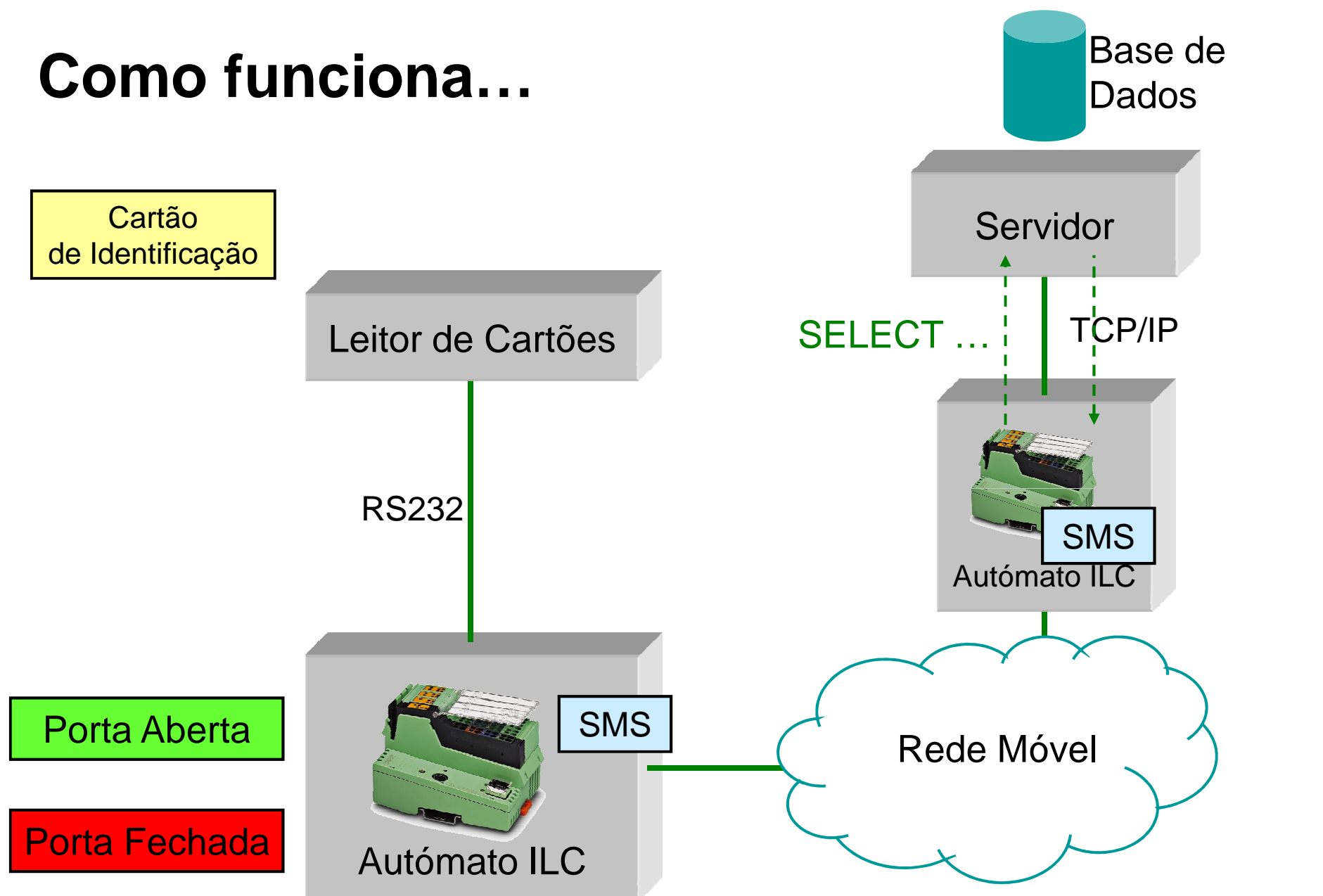
Como também é possível ler uma base de dados...

Exemplo Acesso a uma Zona de Acesso Condicionado

Cartão
de Identificação



Como funciona...



Bem-vindo à PHOENIX CONTACT

**Muito obrigado pela
vossa atenção**

