# SuperCom S7 Protocol Library

Software For The Digital Factory

High Performance Data Access to Siemens PLCs

Communication Solutions by ADONTEC

Some SuperCom S7 functions
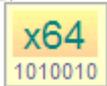
x64 1010010 32 Bit and 64 Bit Versions available!

Version 3

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Control S7 PLC with S7 protocol and ISO-on-TCP

SuperCom S7 Protocol Library

The **SuperCom S7 Protocol Library** includes functions to exchange data with a S7 PLC. The data transmission protocol used is referred as ISO-on-TCP (RFC 1006) and the connection to the PLC is established using the TCP/IP protocol.

The application is using the high-level functions of the **SuperCom S7 Protocol Library** for a flexible and speed optimized data exchange. Read or write operands like *Data Blocks, Marker/Flags, Inputs, Outputs, Counters, Timer, Memory areas*, etc.
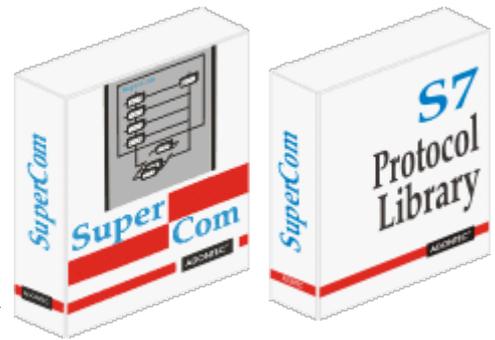
Despite the professional orientation of the **SuperCom S7 Protocol Library** it is really easy to use and accompanied by many samples.

Exchanging data (Reading or Writing) are whenever possible handled internally as one request. This approach enables the SuperCom S7 Protocol Library to optimize speed and network traffic by treating requests for different plc areas as one so called "mixed requests" (one request send to the plc and one reply back).

Easy to use, stable and fast

The SuperCom software is particularly valued by industrial customers for its stability and speed. More than 30 years SuperCom software is supporting industrial customers in rough environment, often with strictly timing requirements.

Accomplish with ease
In most cases Your project is updated real fast. A lot of functions is backing you up to accomplish different tasks or configurations. Many examples are included.

- Real Fast Data Transfer

- Reliable data transfer

- Stable data communication on multiple channels simultaneously

- Event driven: receive events and progress information while data exchanged

- Enables access to different operands within one request

- Handle up to 255 connections simoultaneously
- Control up to 255 S7 PLC connections simoultaneously
- Access S7-200, S7-1200, S7-1500, S7-300, S7-400, S7 SoftSPS, WINAC RTX/WinLC and compatible
- "Mixed Requests" can additionally optimize speed and network traffic
- Low level Data monitoring and recording also supported.

The **SuperCom S7 Protocol Library** uses the *SuperCom for TCP/IP communication layer* which provides a rock solid foundation enabling to develop stable and accurate data communication software in short time. The special SuperCom data transfer technology used increases speed and data throughput and it often reduces network traffic.

The **SuperCom S7 Protocol Library** accesses the S7 station directly without using another software layer (e.g. OPC server or driver from third party) that can cause delays.

SAMPLES:

1. Read input bits
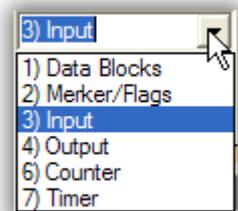

```
C/C++


  -- Init Sequence --


 TCOMMID Com = RS_S7OpenLink(S7CONFIGSTR); // TCP setup and S7 setup


 -- Access -- Fetch 3 input bits e.g. I1.0 to I1.2


 BYTE   cBuffer[3];     // 3 bits returned as 3 bytes
 DWORD dwAmount  = 3;  // bits requested = 0, 1, 2
 DWORD dwAddress = BitAddress(1, 0); // from Bit-Address


 if (RS_S7Ready(Com))
 {
    long nRet =  RS_S7Fetch(Com,
                      ORG_INPUT | ORG_REQ_IN_BITS,
                      dwAddress,
                      &dwAmount,
                      cBuffer);
 }


  :
 RS_S7CloseLink(Com);


```

C/C++   C#   Delphi   Visual Basic

The above samples are nearly complete programs. More Init-Sequences can be found here.

RS_S7OpenLink is an extension to the newer function RS_OpenLink. The manual will also describe how to connect to the S7 using the native SuperCom API, but *RS_S7OpenLink* is definitely the shortest form.

	SF
	LINK
	RX/TX
	RUN
	STOP

2. Read from S7 Data Blocks

```
C/C++


    // Fetch 2 WORDs from DB 10, starting at address 0


WORD  wBuffer[2];
DWORD dwAddress = 0; // start from
DWORD dwAmount  = 2 * sizeof(WORD); // 2*2 = 4 bytes


long nRet = RS_S7Fetch(Com,
                    RS_S7BLOCK_AREA_NR(ORG_DB, 10),
                    dwAddress,
                    &dwAmount,
                    wBuffer);
```

C/C++   C#   Delphi   Visual Basic

License Information
Executable Applications (e.g. .EXE) developed using *SuperCom* can be distributed royalty free.

Supported compilers
C, C++, C#, Delphi, Java, Visual Studio, Visual C++, Visual Basic, Visual Basic NET (VB net), C++ Builder, Borland C/C++, Microsoft C/C++, MinGW, Borland Pascal, VBA, LabVIEW, PowerBuilder and other Windows programming tools (MS .NET ?).

Samples
for C, C++, C#, Delphi, Java, Visual Studio, Visual Basic 6, Visual Basic .NET (VB net) included. Many small samples also listed in the manual. More ...

How to use?
In order to use the *SuperCom S7 Protocol Library* a TCP/IP capable SuperCom library is also required e.g. combine with SuperCom for TCP/IP or SuperCom Suite. See also the following chart.

The *SuperCom S7 Protocol Library* can also be used to analyse and monitor error conditions on a PLC since polling of signals and values on short time frames is possible.

What to order?
Some possible combinations can be found here

PDF Document: SuperCom-S7-Software-Library

S5 Protocol Suite

Protocols for S5 compatible data communication More…

Industrial Data communication Library | S7 Protocol | ISO-on-TCP | S7 data transfer example in C, C++, C#, Pascal, Delphi, Java, Visual Basic, VBA | TCP data communication Library | control many connections simoultaneously | Non blocking data communication

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