
Chapter 7: EVC++ Program Running In ViewPAC Access To ISaGRAF Variables

User can write his EVC++ 4.0 application to access to the ISaGRAF variables running at the same ViewPAC-25W7 (or VP-23W7, VH-25W7, VH-23W7) by using the below functions for Read/Write boolean, word, long and float value.

The include file and library at design time are “WinConAgent.h” and “Quicker.lib”.
(VP-25W7/23W7 CD-ROM: \napdos\isagraf\vp-25w7-23w7\evc++-lib\). The DLL at run time is the “Quicker.dll” which is in ViewPAC 's \System_Disk\isagraf\ (Please copy the execution file after successfully compilation to the ViewPAC 's \System_Disk\isagraf\ and then run it.)

Set boolean value:

```
unsigned char UserSetCoil(unsigned short iUserAddress, unsigned char iStatus);
```

iUserAddress: 1 to 8191 (Variable's network address in ISaGRAF project)
iStatus: 0: set boolean to False, 1: set boolean to True
for ex. UserSetCoil(100, 1) // set boolean at network addr 100 as True

Set word or float or long value:

```
unsigned char UserSetReg(unsigned short iUserAddress, long *iStatus,  
                        unsigned char iDType);
```

iUserAddress: 1 to 8191 (Variable's network address in ISaGRAF project)
iStatus: A pointer to a long type, which stores the data to set
iDType 0: type is word
1: data type is float
2: data type is long (use long for Timer value in ISaGRAF, unit is ms)

for ex.

```
float float_val;  
long word_val, long_val;  
long *temp_val;
```

```
// set word_val (-32768 to +32767) to ISaGRAF variable with network address 1  
word_val = -20000 ;  
temp_val = (long *)&word_val;  
UserSetReg(1, temp_val, 0);
```

```
// set float_val to ISaGRAF variable with network address 2  
float_val = 1.2345 ;  
temp_val = (long *)&float_val;  
UserSetReg(2, temp_val, 1);
```

```
// set long_val to ISaGRAF variable with network address 4  
long_val = 12345678 ;  
temp_val = (long *)&long_val;  
UserSetReg(4, temp_val, 2);
```

Get boolean value:

```
unsigned char UserGetCoil(unsigned short iUserAddress, unsigned char *iStatus);
```

iUserAddress: 1 to 8191 (Variable's network address in ISaGRAF project)

iStatus: 0: boolean is False, 1: boolean is True

for ex.

```
unsigned char bVal;  
UserGetCoil(5, &bVal) // get boolean value at network addr 5
```

Get word or float or long value:

```
unsigned char UserGetReg(unsigned short iUserAddress, long *iStatus,  
                        unsigned char iDType);
```

iUserAddress: 1 to 8191 (Variable's network address in ISaGRAF project)

iStatus: A pointer to a long type, which stores the data returned

iDType 0: type is word

1: data type is float

2: data type is long (use long for Timer value in ISaGRAF, unit is ms)

for ex.

```
float float_val;  
long word_val, long_val;  
long ret_val;
```

```
// get word_val (-32768 to +32767) of ISaGRAF variable with network address 10
```

```
UserGetReg(10, &ret_val, 0);
```

```
if ( ret_val >= 0 && ret_val <= 32767 ) word_val = ret_val;
```

```
else word_val = ret_val | 0xFFFF0000;
```

```
// get float of ISaGRAF variable with network address 11
```

```
UserGetReg(11, &ret_val, 1);
```

```
float_val = *(float *) (&ret_val);
```

```
// get long of ISaGRAF variable with network address 13
```

```
UserGetReg(13, &ret_val, 2);
```

```
long_val = ret_val;
```

Note:

The long integer, timer and float variable's Network Address No. must occupy 2 No. in the ISaGRAF project (Please refer to section 4.2 of "User's Manual of ISaGRAF Embedded Controllers" or in the VP-25W7/23W7 CD-ROM:

\napdos\isagraf\vp-25w7-23w7\english-manu\ User_Manual_I_8xx7.pdf")