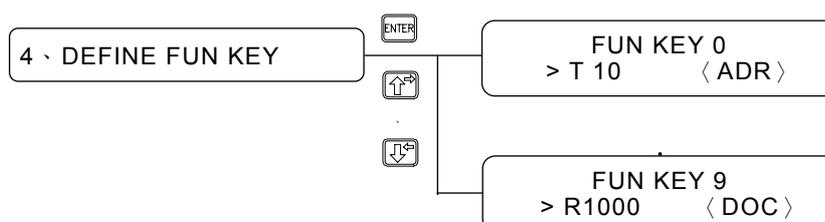


1.5.2 FUN function description

- FUN 1~3 (password)
 - 1、 Password contains up to 4 digits (unrelated to LADDER program's password) .
 - 2、 After the password is set, it will enter a password-locked status once it is started.
 - 3、 After the password is locked, all the FUN functions are not available.

- FUN 4 (DEFINE FUN KEY) : Self-setting speed monitoring function keys



- 1、 There are ten self-setting speed monitoring function keys in total.
- 2、 All items available for monitoring can be defined in the ten function keys.
- 3、 Pressing **SHIFT** + **AB/D00 6** can select ADR or DOC.

- FUN 5 (DEFINE ALARM ADDRESS) : The address for display at self-setting an alarm.

1. There are ten start addresses, that is, ten levels of alarm signals.
2. All items available for monitoring can be defined in the said ten start addresses.
3. Pressing **SHIFT** + **AB/D00 6** can select ADR or DOC for display.
4. Control measures of alarm signals for display are shown as follows :

【Corresponding list for control】

Alarm level (priority sequence)	Control contact	Indication register	Start address of the content displayed
ALARM 0	M1900	R3820	Client-defined
ALARM 1	M1901	R3821	Client-defined
⋮	⋮	⋮	⋮
ALARM 9	M1909	R3829	Client-defined

【Example】 Assume the start address of ALARM 0 displayed content to be R100,

If M1900=1 then the alarm address for display is R100 + (R3820)

If R3820=0 ⇒ Display address or DOC of R100

R3820=1 ⇒ Display address or DOC of R101

R3820=2 ⇒ Display address or DOC of R102

Note 1 : When a multi-level alarm occurs, only the address or DOC with priority can be displayed. The address or DOC of a sub level alarm will not be displayed until this alarm with priority is released.

Note 2 : To display a DOC (message) with 16 digits above, the corresponding indication register (R3820~R3829) content can be changed anytime to reach this purpose.

Note 3 : M1911 can control whether to sound the alarm buzzer. If M1911=0 (preset), it shall be activated.

- FUN 6 (DEFINE SOFTKEY—8 KEYS) : Self-defining 8 soft keys
FUN 7 (ENTER SOFTKEY MODE—8 KEYS) : Enter 8 soft key mode

1. Can self-define 8 soft keys : 、、、、、、、
2. Definable range : R0~R3839、D0~D2943、M0~M1899.
3. In defining M0~M1899, this key can be defined as one of the 5 modes.

Mode	Definition	Description
0	Set (S)	Set this contact to 1
1	Reset (R)	Set this contact to 0
2	Moment (M)	1 in pressing, 0 in being released
3	Inverse (I)	Pressing once will have one inverse phase.
4	Monitor (V)	Monitor this contact

【Example】 Assume definition as R0, definition as M0 mode 0(Set). Once enter the 8 soft key mode in function 7,

Then pressing ⇒ display address or DOC of R0.

⇒ display address or DOC of M0 and force M0 ON

Note 1 : After defining the 8 soft keys, once function 7 is executed, it will enter 8 soft key operation mode. And then the 8 soft keys will be executed according to function 6 definitions.

Note 2 : 、 both are allowed out of definition, but the other keys will not be effected without definition.

Note 3 : To return to normal operation mode, press “ + (D2972 content) + ”, among which D2972 content is from 0000~9999 (4 digits required) .

- FUN 8 (DEFINE SOFTKEY—16 KEYS) : Self-define 16 soft keys
FUN 9 (ENTER SOFTKEY MODE—16 KEYS) : Enter 16 soft key mode

1. Available for defining 16 soft keys : 、、、、、、~
2. Definable range : T0~T255、C0~C199、R0~R3839、D0~D2943、M0~M1899 .
3. In defining M0~M1899, this key can be defined as one of the 5 modes and when a message is being displayed, if the key is pressed, the display will not be changed.

Mode	Definition	Description
0	Set (S)	Set this contact to 1
1	Reset (R)	Set this contact to 0
2	Moment (M)	1 in pressing, 0 in being released
3	Inverse (I)	Pressing once will have one inverse phase.
4	Monitor (V)	Monitor this contact

4. When defined as T, C, R or D, the value change is by pressing or to make the corresponding M1840~M1871 ON (the client is required to write a plus/minus 1 program in the LADDER program) to achieve this purpose.

Soft key	0	1	2	3	4	5	6	7	8	9	T	C	D	R	SHIFT	
	M1840	M1841	M1842	M1843	M1844	M1845	M1846	M1847	M1848	M1849	M1850	M1851	M1852	M1853	M1854	M1855
	M1856	M1857	M1858	M1859	M1860	M1861	M1862	M1863	M1864	M1865	M1866	M1867	M1868	M1869	M1870	M1871

【Example】 Assume  definition as R0,  defined as M0 mode 1 (Reset).

After entering 16 soft key mode in function 9,

Press  ⇒ Display the address or DOC of R0, and then pressing , its corresponding M1850 will be ON; OFF after it is released.

 ⇒ Display the address or DOC of M0 and force M0 OFF.

Note 1 : After the 16 soft keys are defined, once function 9 is executed, it will enter 16 soft key operation mode and then the 16 soft keys will be executed according to function 8 definition.

Note 2 : to return to normal operation mode, press `  + ( +  +  + ) +  ` .

- FUN 11 (SET DAP NO.) : When several sets are connected, set DAP number.

After any communication of FB-PLC is converted to RS-485 interface (Among which port2 as such is a RS-485 interface), the FB-DAP-B(R) of the 16 sets can be connected. Each DAP shall need a unique number, 1~16 (but one of them must be number 1). This DAP is not related to PLC numbers, meaning the number can have the same PLC number.

- FUN 12 (MAX. DAP NO. ON NETWORK) : when several sets are connected, set the biggest DAP number on the Web. (Max. 16 DAPs, preset 7)

In a connection of several sets, FB-PLC can be joined with new DAPs. But the more the DAP number, the longer the time to update information of each DAP. As a result, set the DAP number (the DAP number can not be bigger than this number) on the Web appropriately will decrease time for information to update.

- FUN 13 (WRITE PROTECT) : Information write in

Aimed for monitored items (T, C, R, D, Y, M, S), set the information in write-in protection separately. Just fill in the corresponding place with 1, and then the item is write-in protected and can be read values only.

- FUN 14 (RF CARD MODE) : Wireless card reading options

- MODE= `0` ⇒ When reading a RF card, it will display whether this card is OK or Error. When the RF card is out of sensing distance, it will pop up `NEXT` , indicating another RF card is available now.

MODE= `1` ⇒ once a RF card is read, it will beep once and will not display any information so the sensing speed can be faster. But when many DAPs are connected, this mode will increase by about 60mS to each set for monitored item information.

- FUN 15 (RF CARD START ADDR.) : Start addresses storing the wireless RF card numbers

Store a card number's address can be set through the function, ranging from D0~D2860 (preset to D2860). Please refer to the Wireless Card Reading Functions in 1.6 for detailed description.

- FUN 16 (ENABLE KEYS MAPPING) : Corresponding special contact of Enable key

After this function is set to `Enable` and enter SOFTKEY MODE (8KEYS and 16KEYS) , pressing a definable soft key will force ON some contact of a corresponding contact under its number and the other contacts become OFF. When set to `Disable`, the corresponding special contact of this DAP will not be effected.

The following is corresponding special contacts to different DAP keys when in 16 KEYS MODE:

KEY No.	T	C	D	R	7 (↑)	4 (↓)	1	0	8	5	2	SHIFT	9	6	3	
1	M1784	M1785	M1786	M1787	M1788	M1789	M1790	M1791	M1792	M1793	M1794	M1795	M1796	M1797	M1798	M1799
2	M1768	M1769	M1770	M1771	M1772	M1773	M1774	M1775	M1776	M1777	M1778	M1779	M1780	M1781	M1782	M1783
3	M1752	M1753	M1754	M1755	M1756	M1757	M1758	M1759	M1760	M1761	M1762	M1763	M1764	M1765	M1766	M1767
4	M1736	M1737	M1738	M1739	M1740	M1741	M1742	M1743	M1744	M1745	M1746	M1747	M1748	M1749	M1750	M1751
5	M1720	M1721	M1722	M1723	M1724	M1725	M1726	M1727	M1728	M1729	M1730	M1731	M1732	M1733	M1734	M1735
6	M1704	M1705	M1706	M1707	M1708	M1709	M1710	M1711	M1712	M1713	M1714	M1715	M1716	M1717	M1718	M1719
7	M1688	M1689	M1690	M1691	M1692	M1693	M1694	M1695	M1696	M1697	M1698	M1699	M1700	M1701	M1702	M1703
8	M1672	M1673	M1674	M1675	M1676	M1677	M1678	M1679	M1680	M1681	M1682	M1683	M1684	M1685	M1686	M1687
9	M1656	M1657	M1658	M1659	M1660	M1661	M1662	M1663	M1664	M1665	M1666	M1667	M1668	M1669	M1670	M1671
10	M1640	M1641	M1642	M1643	M1644	M1645	M1646	M1647	M1648	M1649	M1650	M1651	M1652	M1653	M1654	M1655
11	M1624	M1625	M1626	M1627	M1628	M1629	M1630	M1631	M1632	M1633	M1634	M1635	M1636	M1637	M1638	M1639
12	M1608	M1609	M1610	M1611	M1612	M1613	M1614	M1615	M1616	M1617	M1618	M1619	M1620	M1621	M1622	M1623
13	M1592	M1593	M1594	M1595	M1596	M1597	M1598	M1599	M1600	M1601	M1602	M1603	M1604	M1605	M1606	M1607
14	M1576	M1577	M1578	M1579	M1580	M1581	M1582	M1583	M1584	M1585	M1586	M1587	M1588	M1589	M1590	M1591
15	M1560	M1561	M1562	M1563	M1564	M1565	M1566	M1567	M1568	M1569	M1570	M1571	M1572	M1573	M1574	M1575
16	M1544	M1545	M1546	M1547	M1548	M1549	M1550	M1551	M1552	M1553	M1554	M1555	M1556	M1557	M1558	M1559

In 8KEYS MODE, only 8 keys 、、、、、、、 are effective, i.e. number keys ineffective. And 、 take the positions of  and , but it must be when both keys are defined as soft keys so that the corresponding special contacts are effective.

〈Example〉 No.2 : Pressing , M1768 is ON and M1769~M1783 OFF.

No. 5 : Pressing , M1722 is ON and other contacts M1720~M1735 OFF.

1.6 Wireless card reading functions

- An applicable RF card is an exclusive read-only card (RF-CARD-1) or readable/writable card (RF-CARD-2), in which the card number of the read-only card is unique (with 16 0~F digits), not repeatable and copyable. And card numbers read by FB-DAP-AR(BR) shall be encoded with high security.
- The sensing distance of a RF card generally is 12~18cm, but shall be kept away from electromagnetic wave interference source or high voltage power line.
- Readable/Writable cards (RF-CARD-2) can use Fatek's FB-DAP-W in special sequence numbers to write in card numbers. The card numbers are all encoded and relate to machine sequence numbers (the first 4 codes are the machine's sequence number, the last 12 codes defined by the client). Only through Fatek's FB-DAP-A(B)R can a correct numbers be read. Under FUN function 17, FB-DAP-W can be input 12 0~F digits or use 、 to change the card number. Finally, only place the distance of RF-CARD-2 within FB-DAP-W 12cm and then press , so that the card number can be written into RF-CARD-2.

- Locations and application of the card number storage

FB-DAP saves RF card numbers within sensing distance into two places in PLC. The places and application are described as follows:

4、Fixed in R3835~R3839 (totaling 5 registers) : During operation, M1910 shall be controlled.

Card number format		
R3835	N1 N2	N1 : DAP number 1~16 (i.e. 1H~10H)
R3836	××××	N2 : 52H (R : read-only card) or 57H (W : readable/writable card)
R3837	××××	R3836~R3839 store 16 0~F card numbers
R3838	××××	
R3839	××××	

Application :

Only in monitoring (or8/16 soft keys) mode (non-FUN functions) and the RF card in sensing distance, FB-DAP(-AR or -BR) will send the RF card number together with DAP number to PLC R3835~R3839. In mode 0 of function 14 (RF CARD MODE), all the client needs to do is compare the card number. If it is OK, only set M1910 to 1 and then DAP will indicate "OK", or "ERROR". When the RF card is out of sensing distance, DAP will pop up "NEXT" and clear the content of PLC R3838~R3839 to 0, which means available for another RF card. In mode 1 of function 14, as soon as DAP reads a card number, it will save it to R3835~R3839 with a beep. After the RF card exits, the 5 registers remain unchanged.

Applicable occasions :

Where one set or multiple sets are connected but RF cards are not used frequently, the program to be applied will be a lot easier. But in the event of a card number read from different DAPs at the same time, it will be difficult for PLC to identify the information correctly.

5、Preset D2860~D2939 (16 differently-located DAP take on 5 registers individually, i.e. 80 registers in all, but the locations can be changed through function 15) control one point of M1880~M1895 separately when in use.

Card number format							
D2860	N1 N2	D2865	N1 N2	D2870	N1 N2	D2935	N1 N2
D2861	××××	D2866	××××	D2871	××××	D2936	××××
D2862	××××	D2867	××××	D2872	××××	D2937	××××
D2863	××××	D2868	××××	D2873	××××	D2938	××××
D2864	××××	D2869	××××	D3974	××××	D2939	××××
No. 1		No. 2		No. 3		No. 16	
↓		↓		↓		↓	
M1880		M1881		M1882		M1895	

Application measures :

The application measures are all described as the above-mentioned but that the storage places of card numbers and corresponding contacts for control are different. For example, in mode 0 of function 14, from No. 2 DAP sensing to the RF card, now no. 2 will send same card numbers to two different places in R3835~R3839 and D2865~D2869 (the content of the other registers remains unchanged), and all the client needs to do is control M1881 for the DAP to display "OK" or "ERROR". After the RF card exits, the content of the 10 registers R3835~R3839 and D2865~D2869 will be cleared to 0 (but remains unchanged in mode 1).

Applicable occasions :

When several DAPs are connected, the RF card can be read in from different DAPs and each DAP has its independent card numbers storage places and control points so that no PLC misjudgment case occurs, but the programming will be more troublesome.

※ If you do not want R3835~R3839 to display a card number value, you can use the Ladder program to fill in these registers with other fixed values.