



**THE DATASHEET OF  
DF30FC-50DS-0.4V(82)**



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|   | DESCRIPTION OF REVISIONS | BY | CHKD | DATE | COUNT | DESCRIPTION OF REVISIONS | BY | CHKD | DATE |
|---|--------------------------|----|------|------|-------|--------------------------|----|------|------|
| △ |                          |    |      |      | △     |                          |    |      |      |
| △ |                          |    |      |      | △     |                          |    |      |      |

|                     |                             |                        |                           |                    |
|---------------------|-----------------------------|------------------------|---------------------------|--------------------|
| APPLICABLE STANDARD |                             |                        |                           |                    |
| RATING              | OPERATING TEMPERATURE RANGE | -35 °C TO 85 °C(NOTE1) | STORAGE TEMPERATURE RANGE | -10 °C TO 60 °C    |
|                     | VOLTAGE                     | 30 V A C               | APPLICABLE CONNECTOR      | DF30*-*DP-0.4V(**) |
|                     | CURRENT                     | 0.3 A                  |                           |                    |

**SPECIFICATIONS**

| ITEM | TEST METHOD | REQUIREMENTS | QT | AT |
|------|-------------|--------------|----|----|
|------|-------------|--------------|----|----|

**CONSTRUCTION**

|                     |                                       |                       |   |   |
|---------------------|---------------------------------------|-----------------------|---|---|
| GENERAL EXAMINATION | VISUALLY AND BY MEASURING INSTRUMENT. | ACCORDING TO DRAWING. | X | X |
| MARKING             | CONFIRMED VISUALLY.                   |                       | X | X |

**ELECTRICAL CHARACTERISTICS**

|                       |                         |                            |   |   |
|-----------------------|-------------------------|----------------------------|---|---|
| CONTACT RESISTANCE    | 100 mA (DC OR 1000 Hz). | 100 mΩ MAX.                | X | - |
| INSULATION RESISTANCE | 100 V DC.               | 50 MΩ MIN.                 | X | - |
| VOLTAGE PROOF         | 100 V AC FOR 1 min.     | NO FLASHOVER OR BREAKDOWN. | X | - |

**MECHANICAL CHARACTERISTICS**

|                      |   |   |   |   |
|----------------------|---|---|---|---|
| MECHANICAL OPERATION | 50 TIMES INSERTIONS AND EXTRACTIONS.  | ① CONTACT RESISTANCE: 100mΩ MAX.<br>② NO DAMAGE, CRACK AND LOOSENESS, OF PARTS.       | X | - |
| VIBRATION            | FREQUENCY 10 TO 55 Hz, SINGLE AMPLITUDE 0.75 mm, 10 CYCLES OF EACH 3 AXIAL DIRECTION FOR 5 min. | ① NO ELECTRICAL DISCONTINUITY OF 1 μs.<br>② NO DAMAGE, CRACK AND LOOSENESS, OF PARTS. | X | - |
| SHOCK                | 490 m/s <sup>2</sup> DURATION OF PULSE 11 ms AT 3 TIMES FOR 3 DIRECTIONS.                       | ① NO ELECTRICAL DISCONTINUITY OF 1 μs.<br>② NO DAMAGE, CRACK AND LOOSENESS, OF PARTS. | X | - |

**ENVIRONMENTAL CHARACTERISTICS**

|                             |  |  |   |   |
|-----------------------------|--|--|---|---|
| DAMP HEAT (STEADY STATE)    | EXPOSED AT 40±2 °C, 90 TO 95 %, 96 h.  | ① CONTACT RESISTANCE: 100mΩ MAX.<br>② INSULATION RESISTANCE: 25 MΩ MIN.<br>③ NO DAMAGE, CRACK AND LOOSENESS, OF PARTS. | X | - |
| RAPID CHANGE OF TEMPERATURE | TEMPERATURE -55→5 TO 35→85→5 TO 35 °C<br>TIME 30→10 TO 15→30→10 TO 15 min<br>UNDER 5 CYCLES. | ① CONTACT RESISTANCE: 100mΩ MAX.<br>② INSULATION RESISTANCE: 50 MΩ MIN.<br>③ NO DAMAGE, CRACK AND LOOSENESS, OF PARTS. | X | - |
| CORROSION SALT MIST         | EXPOSED IN 5% SALT WATER SPRAY FOR 48 h. (TEST STANDARD:IEC60068)                            | ① CONTACT RESISTANCE: 100mΩ MAX.<br>② NO HEAVY CORROSION.  | X | - |
| SULPHUR DIOXIDE             | EXPOSED IN 25 PPM FOR 96h. (TEST STANDARD:IEC60068)  | ① CONTACT RESISTANCE: 100mΩ MAX.<br>② NO HEAVY CORROSION.  | X | - |

|   |          |               |           |          |          |
|---|----------|---------------|-----------|----------|----------|
| REMARKS   | DRAWN    | DESIGNED      | CHECKED   | APPROVED | RELEASED |
| NOTE1: INCLUDE THE TEMPERATURE RISING BY CURRENT. | T. Nishi | K. Miderikawa | K. Akashi | J. Oka   |          |
| Unless otherwise specified, refer to IEC60512.    | 04.08.25 | 04.08.25      | 04.08.25  | 04.08.25 |          |

Note QT: Qualification Test AT: Assurance Test X: Applicable Test

|                                      |                               |                                  |
|--------------------------------------|-------------------------------|----------------------------------|
| <b>HRS</b> HIROSE ELECTRIC CO., LTD. | <b>SPECIFICATION SHEET</b>    | PART NO.<br>DF30FC-*DS-0.4V (82) |
| CODE NO.(OLD)<br>CL                  | DRAWING NO.<br>ELC4-303556-03 | CODE NO.<br>CL684-****-*82       |

1/1



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| 1     | 2                        |            | 3    |      | 4        |                          |    |      |      |
|-------|--------------------------|------------|------|------|----------|--------------------------|----|------|------|
| COUNT | DESCRIPTION OF REVISIONS | BY         | CHKD | DATE | COUNT    | DESCRIPTION OF REVISIONS | BY | CHKD | DATE |
| △     | 4                        | RE-H-06664 | YM   | TS   | 04.12.17 | △                        |    |      | . .  |
| △     |                          |            |      |      |          | △                        |    |      | . .  |
| △     |                          |            |      |      |          | △                        |    |      | . .  |

■ NOTES WHEN MATING DF30 SERIES CONNECTORS.

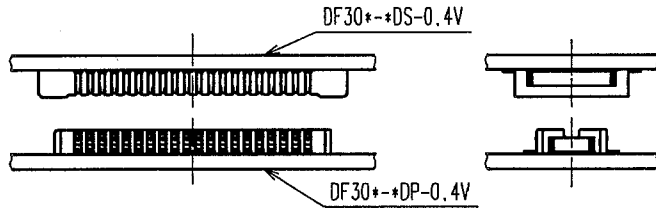


FIGURE-1

PLEASE LOCATE EACH CONNECTOR IN PARALLEL WHEN YOU PUT THEM IN MATING POSITION.

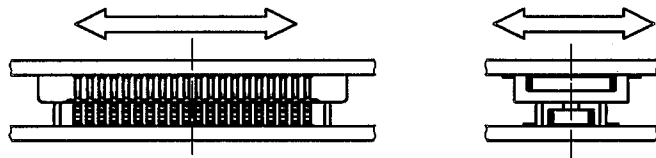


FIGURE-2

THE INSULATOR WILL BE DAMAGED AND THE CONTACTS WILL BE DEFORMED IF THE CONNECTORS ARE LOCATED INCLINED AND MATED BY EXCESSIVE FORCE.

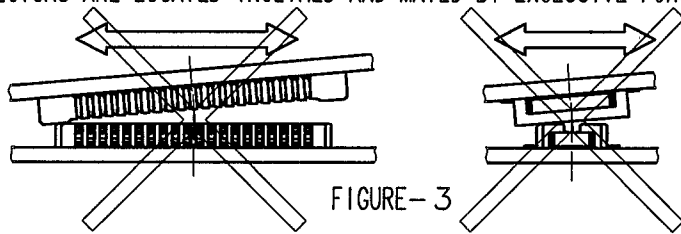


FIGURE-3

WHEN YOU LOCATE TWO CONNECTORS IN A PROPER POSITION, THEY WILL GO DOWN SLIGHTLY AT A LOWER LEVEL AND YOU WILL FIND THAT THEY GET LOCATED CORRECTLY. PLEASE MATE EACH CONNECTOR IN PARALLEL AFTER YOU CONFIRMED THAT THEY GO DOWN LOWER TO SOME EXTENT.

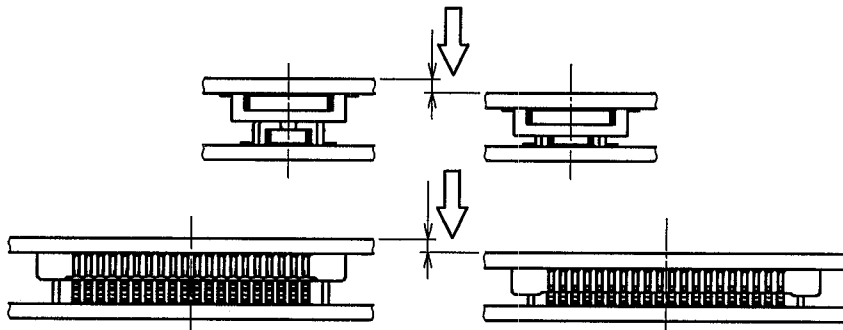


FIGURE-4

THE MATED CONDITIONS CAN BE RELEASED BY A DROP IMPACT OR THE APPLIED FORCE CAUSED BY FPC-HANDLING. FIX THE CONNECTORS BY APPLYING PRESSURE IN THE MATING DIRECTION WITH THE DEVICE OR A BUFFER MATERIAL.

|                                  |              |             |             |          |  |          |   |   |
|----------------------------------|--------------|-------------|-------------|----------|--|----------|---|---|
| CODE NO. (OLD)                   |              | DRAWN       | DESIGNED    | CHECKED  | APPROVED   | RELEASED |   |   |
|                                  |              | Y.MICHIDA   | A.TAKAHASHI | T.SAKATA | T.OMA  |          |   |   |
| NOTES WHEN MATING                |              | 04.12.16    | 04.12.16    | 04.12.16 | 04.12.16   |          |   |   |
| SCALE<br>FREE : 1<br>UNITS<br>mm | DRAWING NO.  | PART NO.    |             |          |  |          |   |   |
|                                  | EDSC4-830174 | DF30 Series |             |          |  |          |   |   |
| HRS<br>HIROSE ELECTRIC CO., LTD. |              | CODE NO.    |             |          |  |          |   |   |
|                                  |              | CL684       |             |          | <table border="1"> <tr> <td>1</td> <td>3</td> </tr> </table> |          | 1 | 3 |
| 1                                | 3            |             |             |          |  |          |   |   |

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|-------|--------------------------|----|------|------|-------|--------------------------|----|------|------|-------|--------------------------|----|------|------|
| COUNT | DESCRIPTION OF REVISIONS | BY | CHKD | DATE | COUNT | DESCRIPTION OF REVISIONS | BY | CHKD | DATE | COUNT | DESCRIPTION OF REVISIONS | BY | CHKD | DATE |
| △     |                          |    |      |      | △     |                          |    |      |      |       |                          |    |      | .    |
| △     |                          |    |      |      | △     |                          |    |      |      |       |                          |    |      | .    |
| △     |                          |    |      |      | △     |                          |    |      |      |       |                          |    |      | .    |

■ NOTES WHEN EXTRACTING

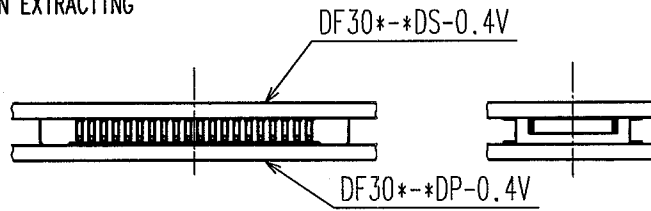


FIGURE-5

WHEN YOU EXTRACT CONNECTORS, PLEASE EXTRACT IN PARALLEL.

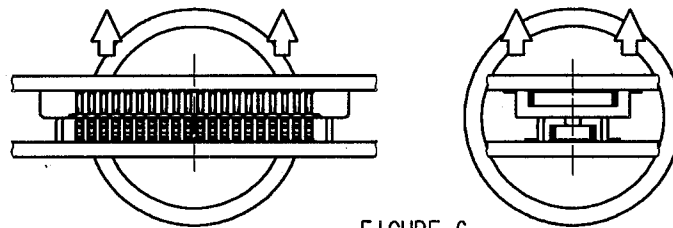


FIGURE-6

⚠ IF YOU'RE UNABLE TO EXTRACT IN PARALLEL DUE TO SET STRUCTURE OR SPACE, PLEASE EXTRACT AS FIGURE-7 (IN LONGER DIMENSION). PLEASE BE CAREFUL NOT TO DAMAGE CONTACTS AT SIDES, WHERE STRESS IS LIKELY TO GATHER WHEN CONNECTORS ARE MOUNTED ON SOFT FPC.

⚠ ESPECIALLY, PLEASE DO NOT EXTRACT FROM THE CORNER AS FIGURE-8. IT GIVES CRITICAL STRESS TO THE CONTACTS ON THE CROSS CORNER.

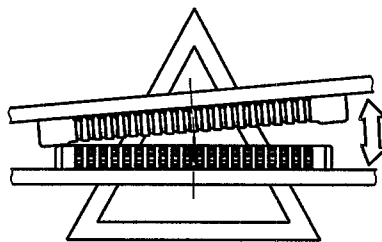


FIGURE-7

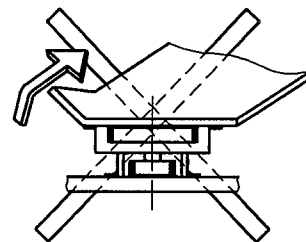


FIGURE-8

⚠ PLEASE DO NOT EXTRACT AS FIGURE-9. THE STRESS CONCENTRATES ON ONE ROW, AND MIGHT DAMAGE CONNECTORS TO MALFUNCTION.

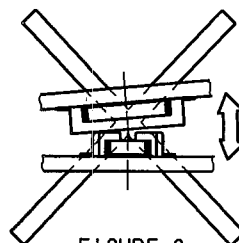


FIGURE-9

|                                 |  |             |             |          |          |          |
|---------------------------------|--|-------------|-------------|----------|----------|----------|
| CODE NO. (OLD)                  |  | DRAWN       | DESIGNED    | CHECKED  | APPROVED | RELEASED |
|                                 |  | Y.MICHIDA   | A.TAKAHASHI | T.SAKATA | T.OMA    |          |
| NOTES WHEN EXTRACTING           |  | 04.12.16    | 04.12.16    | 04.12.16 | 04.12.16 |          |
| DRAWING NO.                     |  | PART NO.    |             |          |          |          |
| EDSC4-830174                    |  | DF30 Series |             |          |          |          |
| SCALE<br>FREE : 1               |  | CODE NO.    |             |          |          |          |
| UNITS<br>mm                     |  | CL684       |             |          |          |          |
| HRS<br>HIROSE ELECTRIC CO.,LTD. |  | 2/3         |             |          |          |          |

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| COUNT | DESCRIPTION OF REVISIONS | BY | CHKD | DATE | COUNT | DESCRIPTION OF REVISIONS | BY | CHKD | DATE |  |
| △     |                          |    |      |      | △     |                          |    |      | . .  |  |
| △     |                          |    |      |      | △     |                          |    |      | . .  |  |
| △     |                          |    |      |      | △     |                          |    |      | . .  |  |

⚠ WHEN FPC IS SOFT, STRESS IS CONCENTRATED ON THE CONTACTS AT CORNERS.  
 PLEASE PAY ATTENTION TO THIS POINT AND DO NOT UNMATE CONNECTORS FROM CORNERS AS FIGURE-10.  
 THIS GIVES SERIOUS DAMAGE ON CONTACTS, AND OCCURS SOLDER PEEL-OFF OR CONTACT COME-OFF.

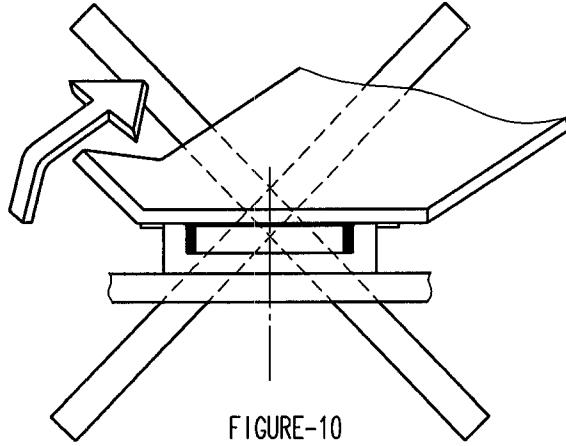


FIGURE-10

IF YOU MOUNT PLUG CONNECTOR ON FPC, CONTACTS MIGHT COME OFF FROM HOUSING MOLD.

CONTACT MIGHT COME OFF FROM HOUSING MOLD.

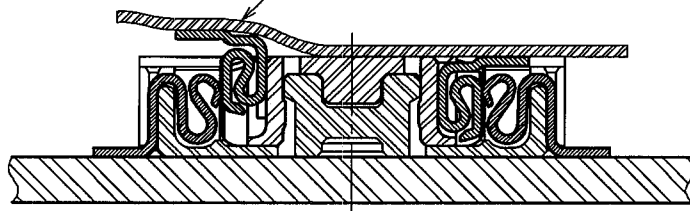


FIGURE-11

IN CASE YOU MOUNT RECEPTACLE CONNECTOR ON FPC, THERE IS NO RISK OF CONTACT COME-OFF.  
 HIROSE RECOMMEND THAT RECEPTACLE IS MOUNTED ON FPC.

IN ORDER TO AVOID THIS RISK, IT IS RECOMMENDED THAT YOU MOUNT RECEPTACLE CONNECTOR ON FPC.

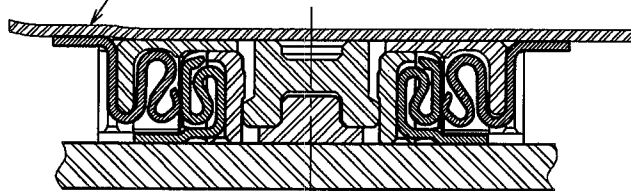


FIGURE-12

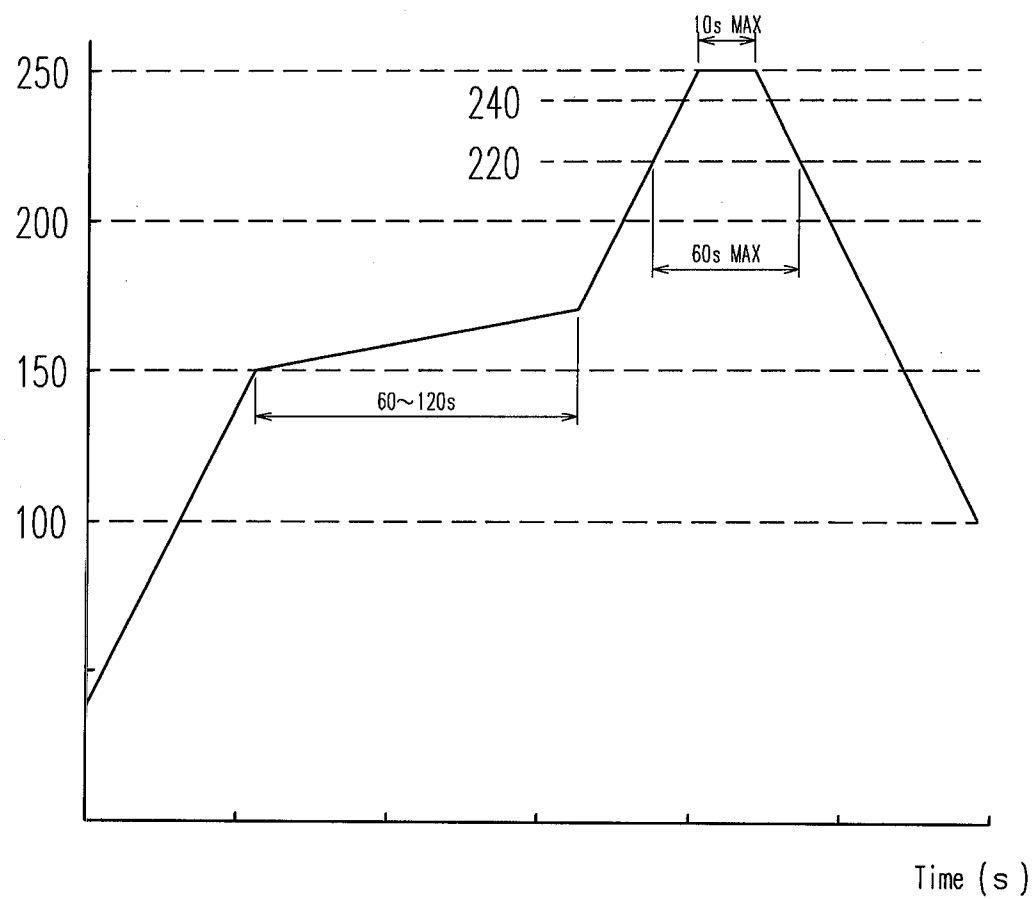
|  |              |           |             |          |              |          |
|--|--------------|-----------|-------------|----------|--------------|----------|
| CODE NO. (OLD)                             |              | DRAWN     | DESIGNED    | CHECKED  | APPROVED     | RELEASED |
|  |              | Y.MICHIDA | A.TAKAHASHI | T.SAKATA | T.OMA        |          |
| NOTES WHEN EXTRACTING (SUPPLEMENTARY DATA) |              | 04.12.16  | 04.12.16    | 04.12.16 | 04.12.16     |          |
| <br>SCALE FREE : 1<br>UNITS mm             | DRAWING NO.  |           | PART NO.    |          |              |          |
|  | EDSC4-830174 |           | DF30 Series |          |              |          |
| <br>HIROSE ELECTRIC CO.,LTD.               |              | CODE NO.  |             |          | CL684<br>3/3 |          |



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| COUNT | DESCRIPTION OF REVISIONS | BY | CHKD | DATE | COUNT | DESCRIPTION OF REVISIONS | BY | CHKD | DATE | COUNT | DESCRIPTION OF REVISIONS | BY | CHKD | DATE |
| △     |                          |    |      |      | △     |                          |    |      |      | △     |                          |    |      |      |
| △     |                          |    |      |      | △     |                          |    |      |      | △     |                          |    |      |      |
| △     |                          |    |      |      | △     |                          |    |      |      | △     |                          |    |      |      |

Temperatuer (°C)



NOTE 1.REFLOW SYSTEM : IR REFLOW (AIR OR N<sub>2</sub> GAS)  
2.PERFORMING REFLOW : TWICE MAX

| NO.                          | MATERIAL | FINISH, REMARKS | NO.                          | MATERIAL  | FINISH, REMARKS |          |          |
|------------------------------|----------|-----------------|------------------------------|-----------|-----------------|----------|----------|
| CODE NO. (OLD)               |          |                 | DRAWN                        | DESIGNED  | CHECKED         | APPROVED | RELEASED |
|                              |          |                 | T.NISHI                      | W.Fukuchi | J. Jomika       | J. Ona   |          |
|                              |          |                 | 03.08.19                     | 03.08.19  | 03.08.20        | 03.08.20 |          |
| DRAWING NO.<br>EDC4-830116   |          |                 | PART NO.<br>DF30-*DS/DP-0.4V |           |                 |          |          |
| SCALE<br>FREE                |          |                 | CODE NO.<br>CL684            |           |                 |          |          |
| UNITS<br>mm                  |          |                 |                              |           |                 |          |          |
| HRS HIROSE ELECTRIC CO.,LTD. |          |                 |                              |           |                 |          |          |

|    |
|----|
| TO |
|    |
|    |
|    |



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- [Hirose Electric Co Ltd Information](#)

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- ✓ Obsolete Management
- ✓ Cost Control Management
- ✓ Shortage Management
- ✓ Alternative Solution
- ✓ Excess Inventory Management