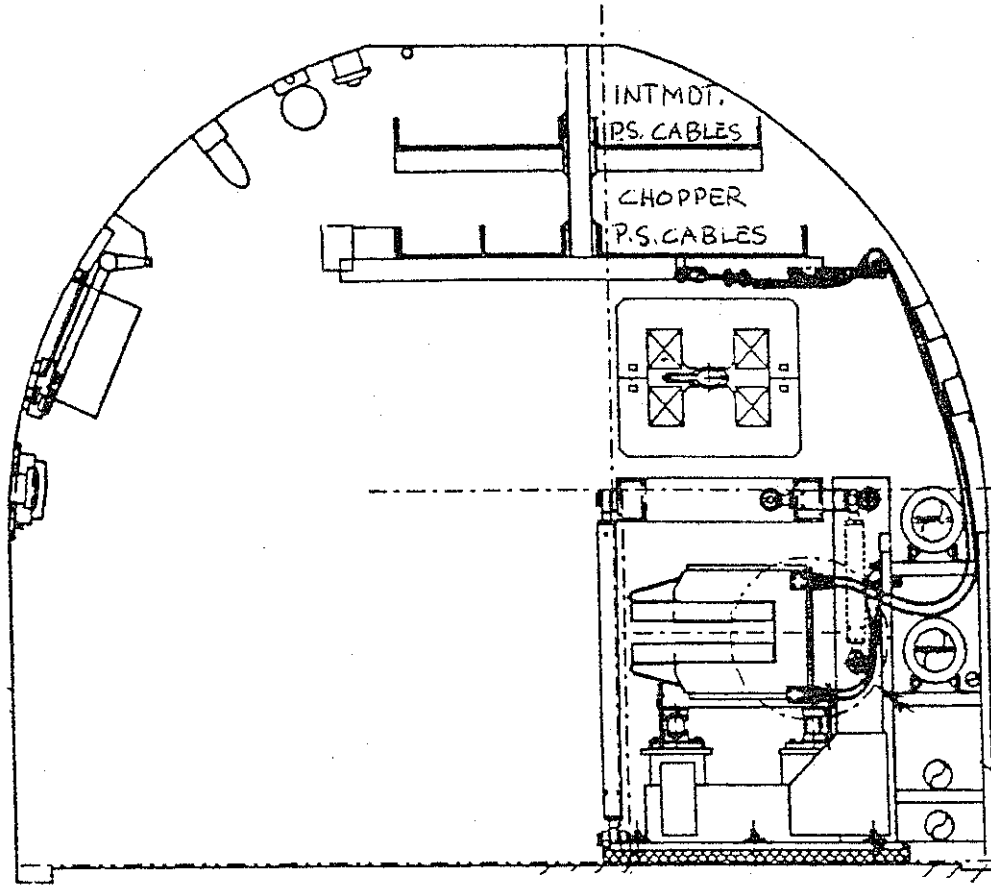




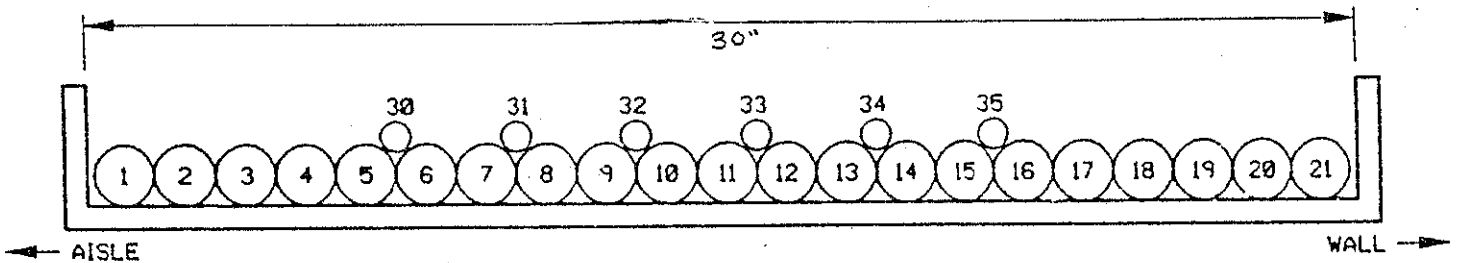
# HER & LER Chopper-Powered Magnet Strings

Information about the water-cooled cables and dry cables for those circuits

(Illustrations are from ID-342-725-13)



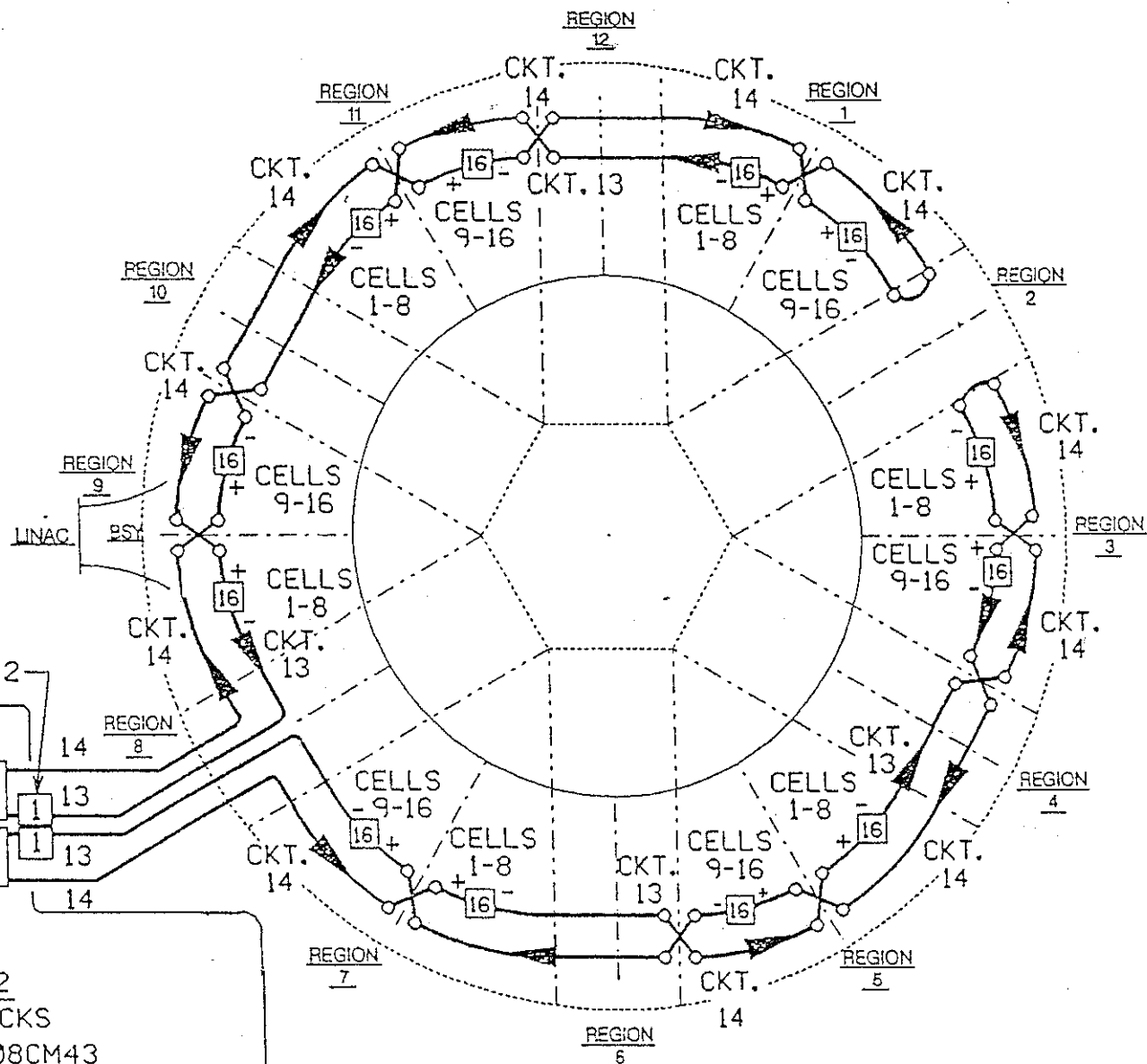
Tunnel Section ( Typical for any arc )



BUSES 1 THROUGH 21:  
POSITION AS SHOWN  
INDIVIDUAL AMPACITY = 1KA  
SOLID ALUMINUM, 1" O.D. WITH AN INTERNAL 3/8" CONTINUOUS WATER PASSAGE.

BUSES 30 THROUGH 35  
POSITIONED RANDOMLY ON TOP OF THE ALUMINUM BUSES  
INDIVIDUAL AMPACITY = 300 AMPS  
ALUMINUM MCM 350

Chopper-powered magnet circuit cable tray cross-section & bus configuration



### MAGNET LOCATIONS

REGIONS 1, 3, 5, 7, 9, & 11 : CELL 1 THRU CELL 16: (1) B1 MAGNET  
(1) B2 MAGNET

BLDG. 685 2 REFERENCE BEND MAGNETS:

ONE FOR REGIONS 1, 9 & 11 (NORTH BEND LOOP)  
ONE FOR REGIONS 3, 5 & 7 (SOUTH BEND LOOP)

**NOTE 2**

BLDG 685

4 CHOPPER 1 13

1 CHOPPER 1 13

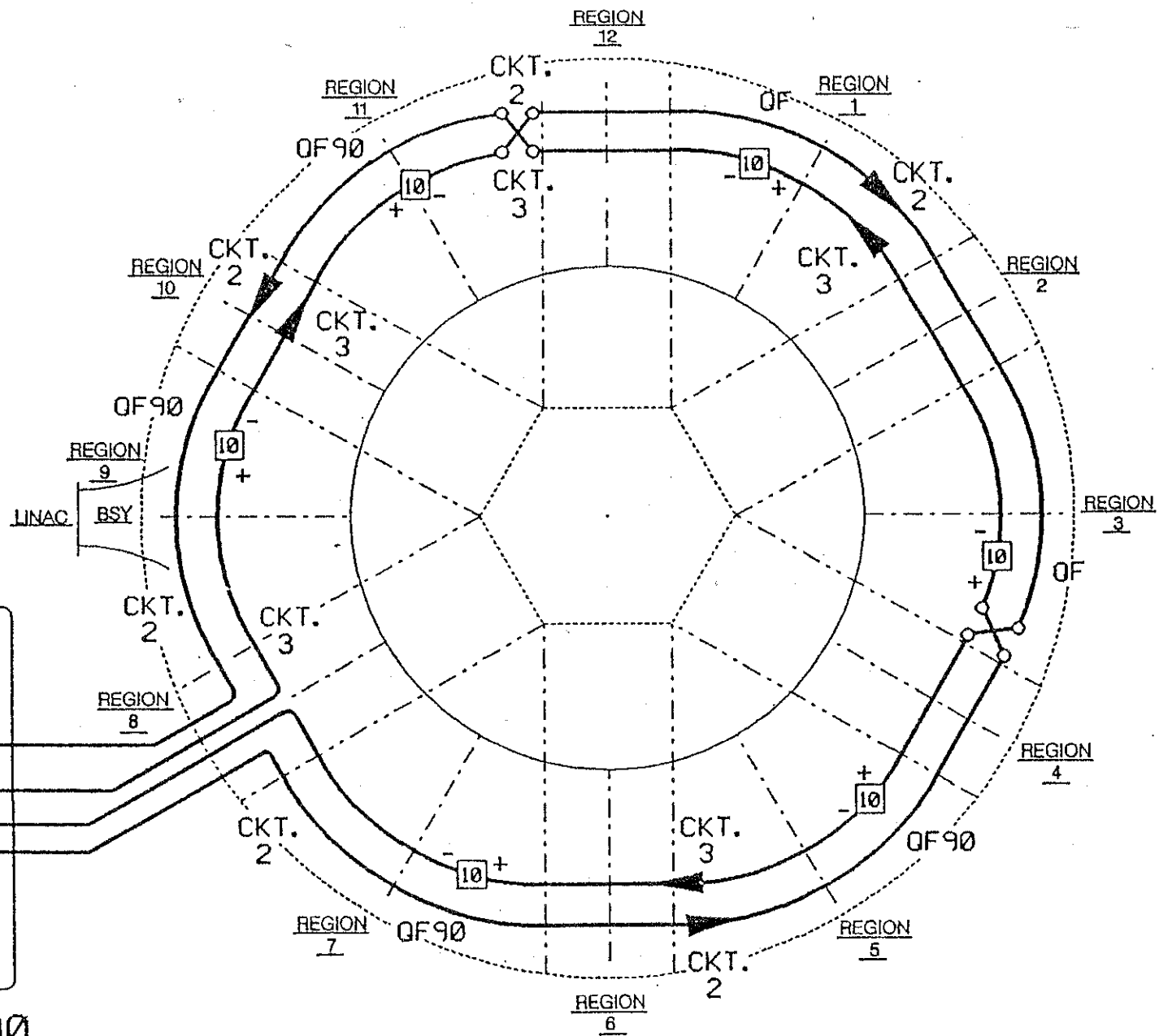
NORTH B1, B2  
CHOPPER RACKS  
Ø8CM42 & Ø8CM43  
TRANSDUCTOR RACK-44

SOUTH B1, B2  
CHOPPER RACKS  
Ø8CM46 & Ø8CM47  
TRANSDUCTOR RACK-45

2. REFERENCE BEND MAGNETS.

### HER B1, B2, N & S

JER-COOLED CABLE  
CIRCUITS 13 & 14  
CURRENT: 705A  
TOTAL # MAGNET { 97 (NORTH LOOP)  
97 (SOUTH LOOP)

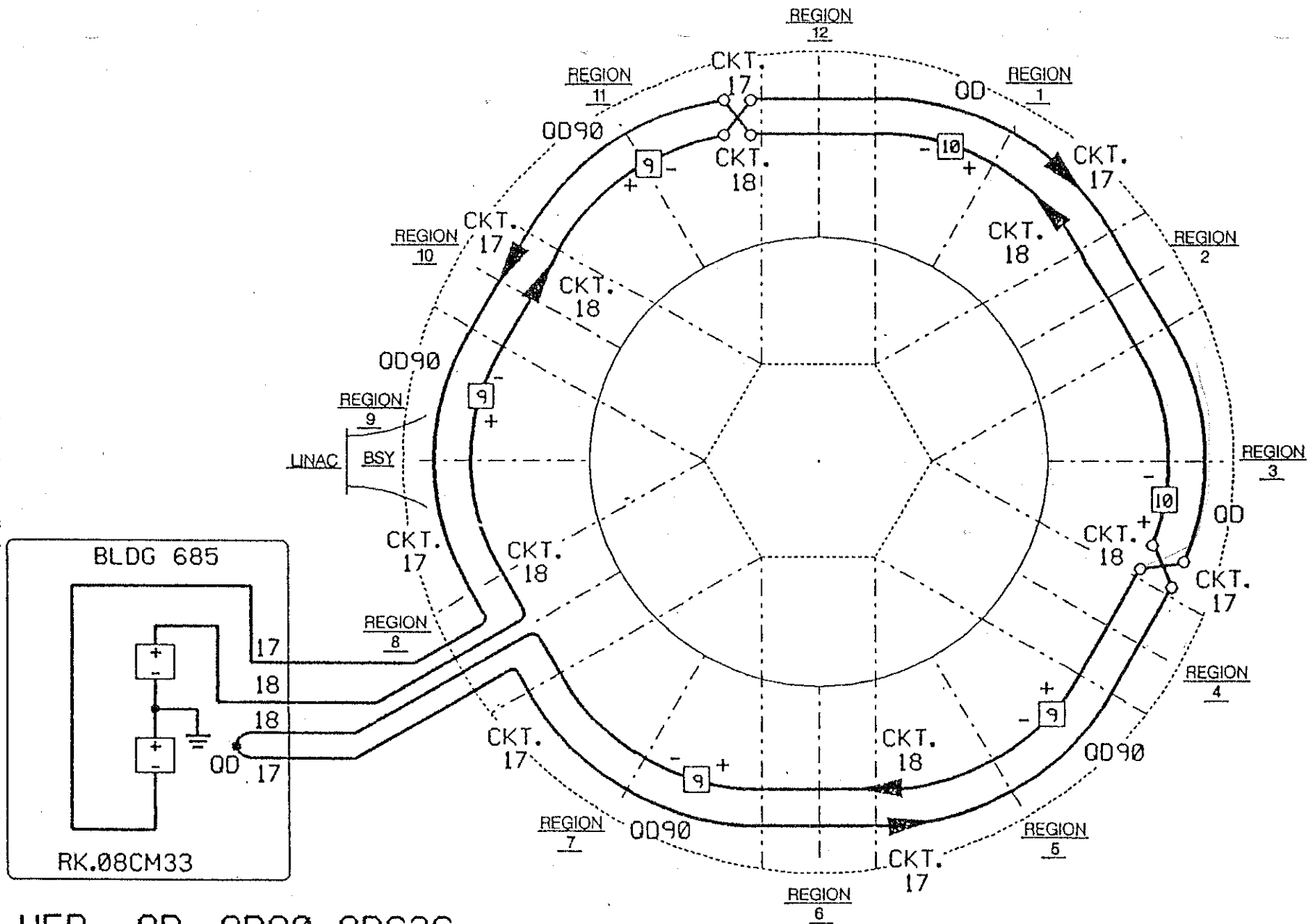


HER QF, QF90

WATER-COOLED CABLES  
 CIRCUITS 2 & 3  
 QF CURRENT: 146A  
 QF90 CURRENT: 146A  
 TOTAL \* QF MAGNETS: 20  
 TOTAL \* QF90 MAGNETS: 40

MAGNET LOCATIONS

QF: REGIONS 1 & 3 - CELL 4 THRU CELL 13  
 QF90: REGIONS 5, 7, 9 & 11 - CELLS 4 THRU 13



HER OD, OD90, ODS3S

WATER-COOLED CABLES

CIRCUITS 17 & 18

OD CURRENT: 146A

OD90 CURRENT: 146A

TOTAL \* OD MAGNETS: 20

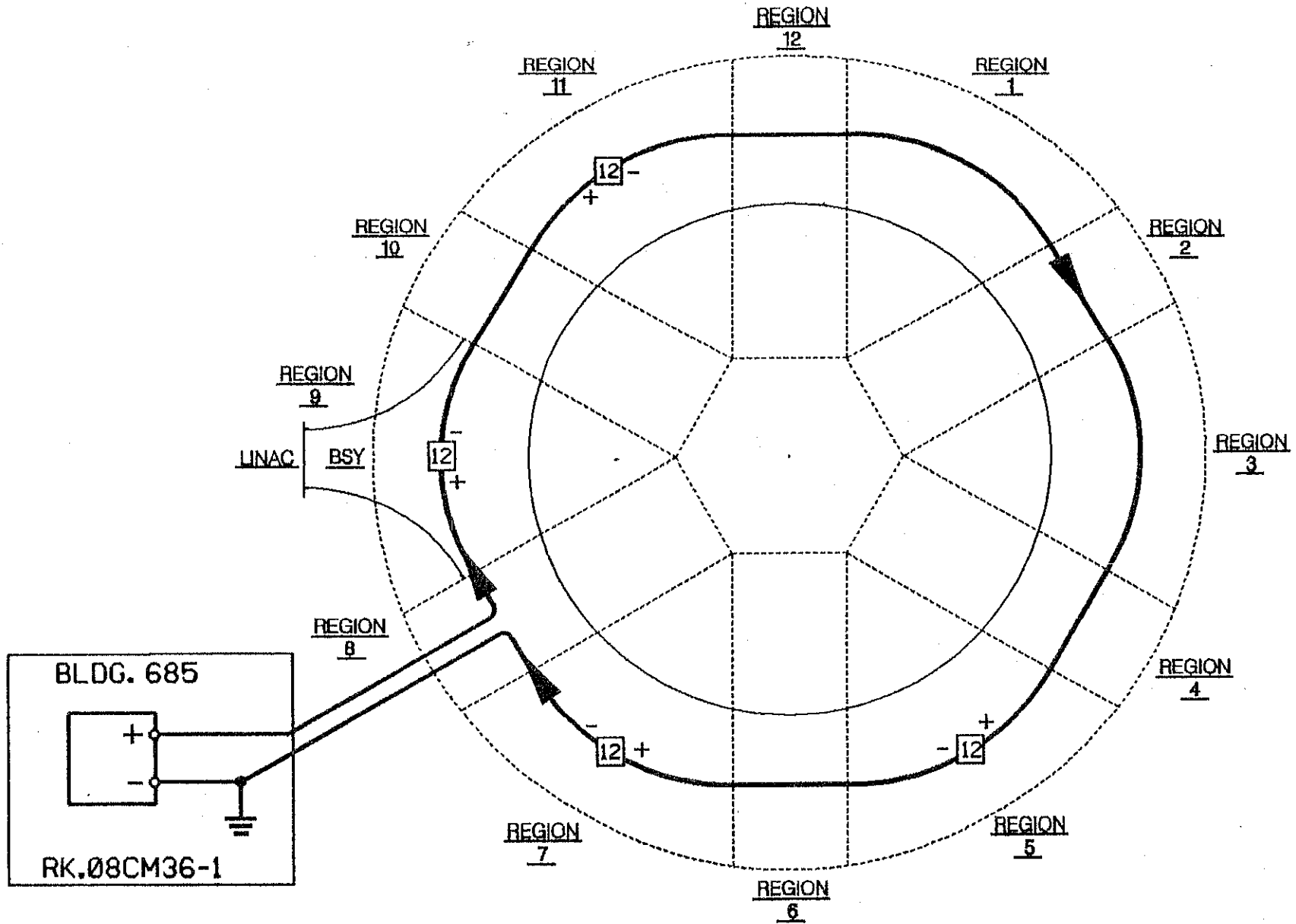
TOTAL \* OD90 MAGNETS: 36

MAGNET LOCATIONS

OD: REGION 1 - CELL 4 THRU CELL 13

REGION 3 - CELLS 5 THRU 14

OD90: REGIONS 5, 7, 9 & 11 - CELLS 5 THRU 13

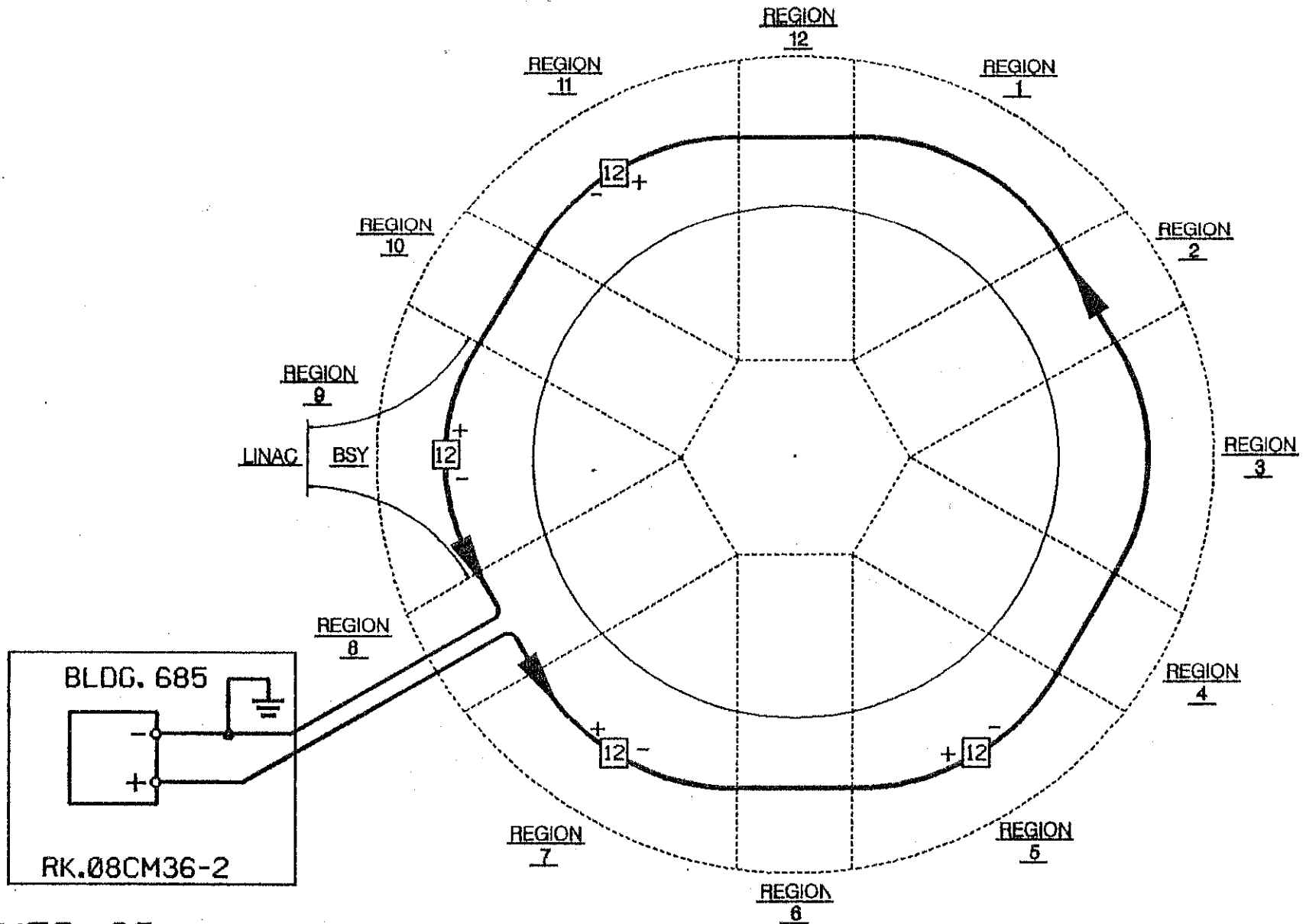


HER SF

CABLE : 350 MCM AIR-COOLED  
 CIRCUIT \* 31  
 CURRENT 117A  
 TOTAL \* MAGNETS : 48

MAGNET LOCATIONS

REGIONS 5, 7, 9 & 11 : CELL 3 THRU CELL 14

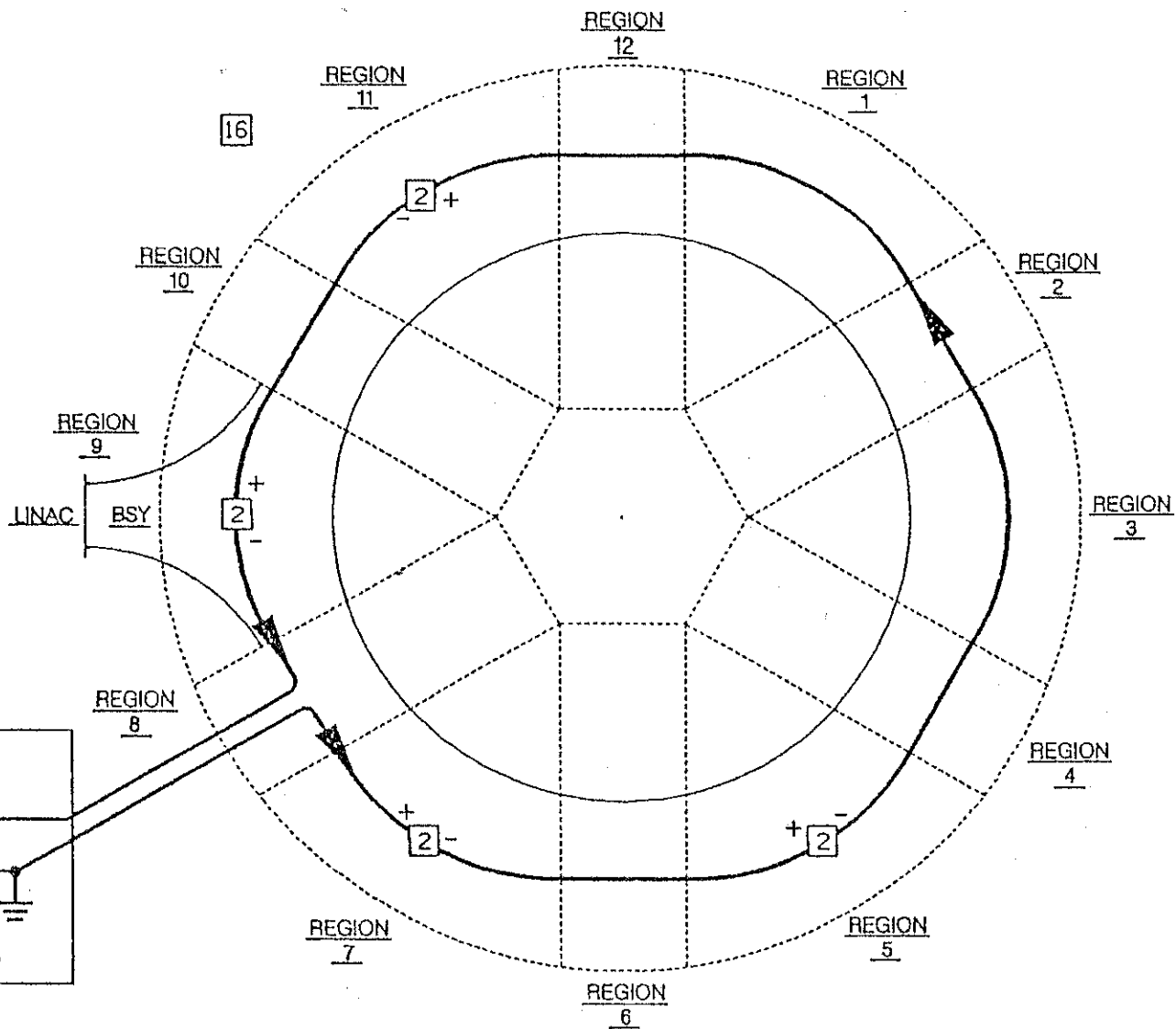


## HER SD

CABLE : 350 MCM AIR-COOLED  
 CIRCUIT \* 30  
 CURRENT 177A  
 TOTAL \* MAGNETS : 48

## MAGNET LOCATIONS

REGIONS 5, 7, 9 & 11 : CELL 2 THRU CELL 13

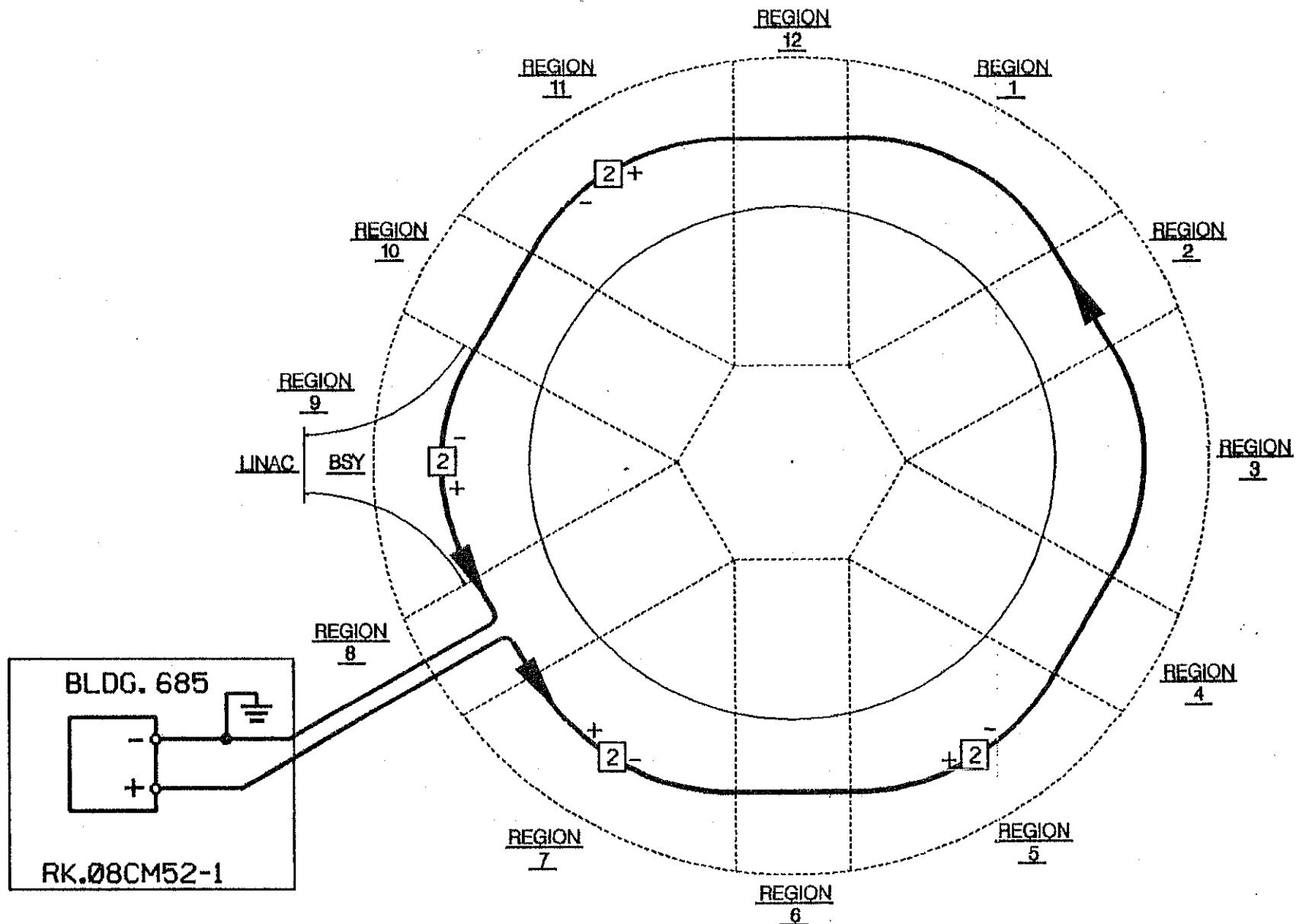


HER QFS3E

WATER-COOLED CABLE  
 CIRCUIT \* 12  
 CURRENT 212A  
 TOTAL \* MAGNETS : 8

MAGNET LOCATIONS

REGIONS 5, 7, 9 & 11 : CELL 3 & CELL 14



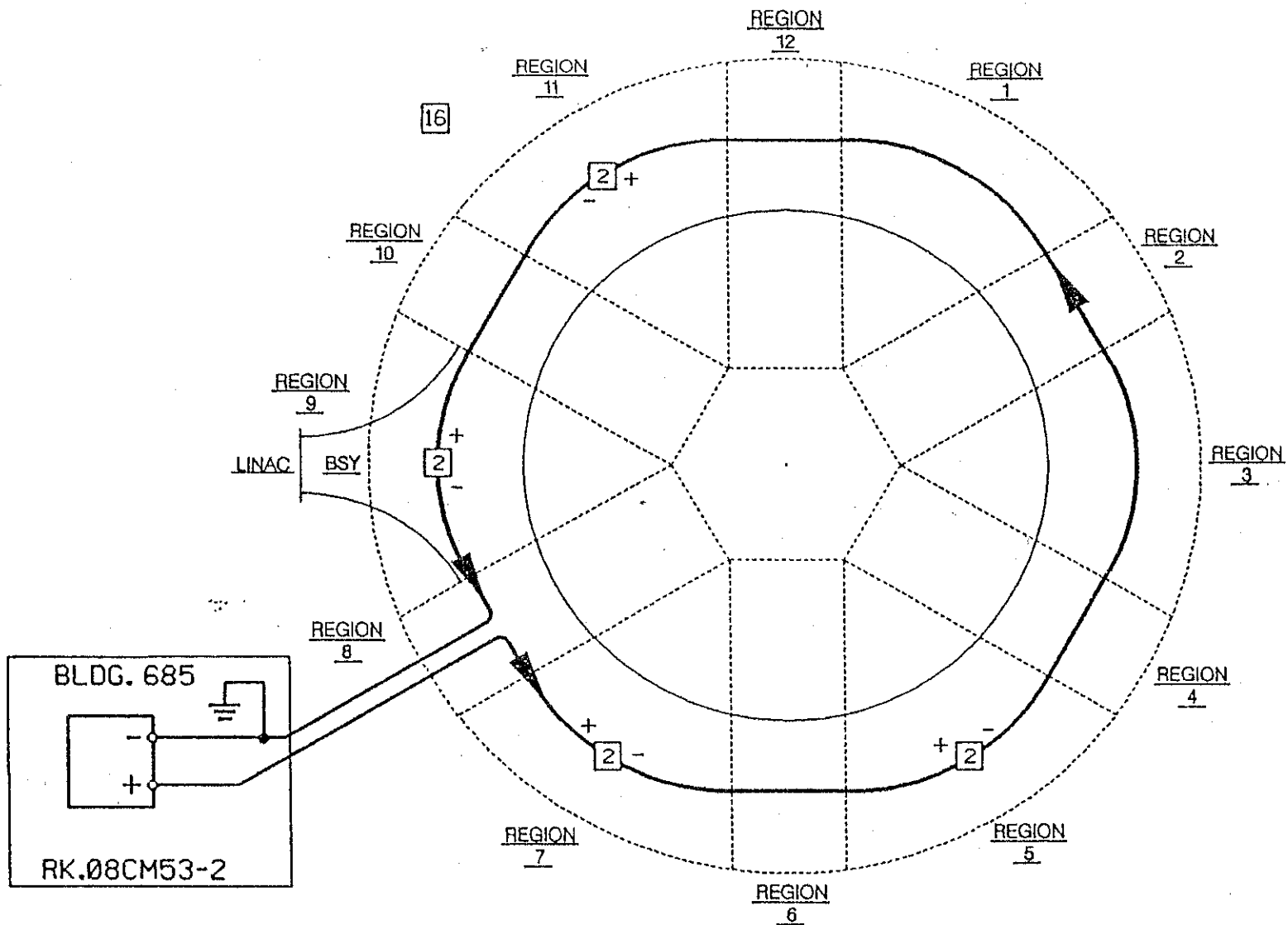
## HER QDS3E

WATER-COOLED CABLE  
 CIRCUIT \* 9  
 CURRENT 150A  
 TOTAL \* MAGNETS : 8

## MAGNET LOCATIONS

REGIONS 5, 7, 9 & 11 : CELL 4 & CELL 14



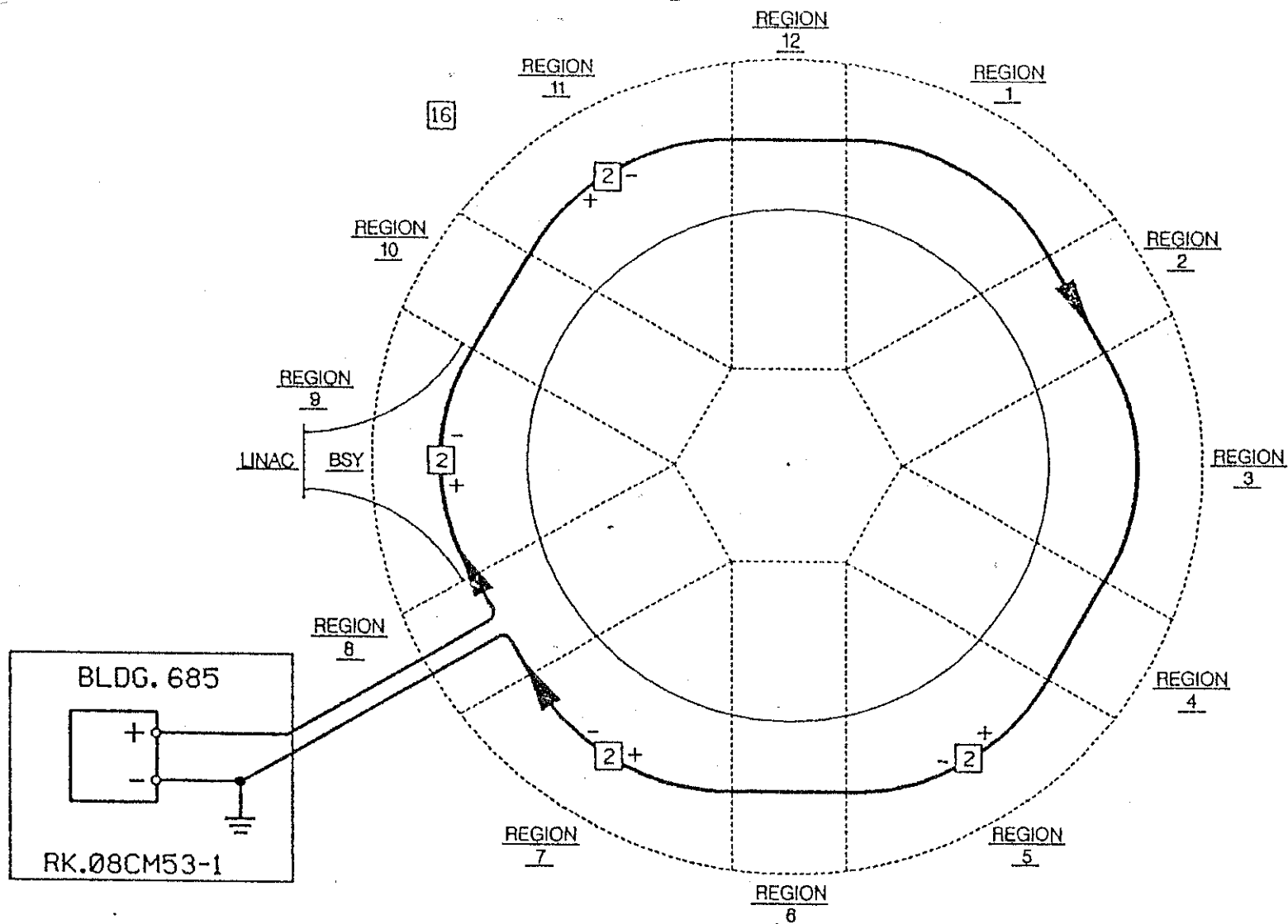


## HER QFS2E

WATER-COOLED CABLE  
 CIRCUIT # 4  
 CURRENT 190A  
 TOTAL \* MAGNETS : 8

## MAGNET LOCATIONS

REGIONS 5, 7, 9 & 11 : CELL 2 & CELL 15

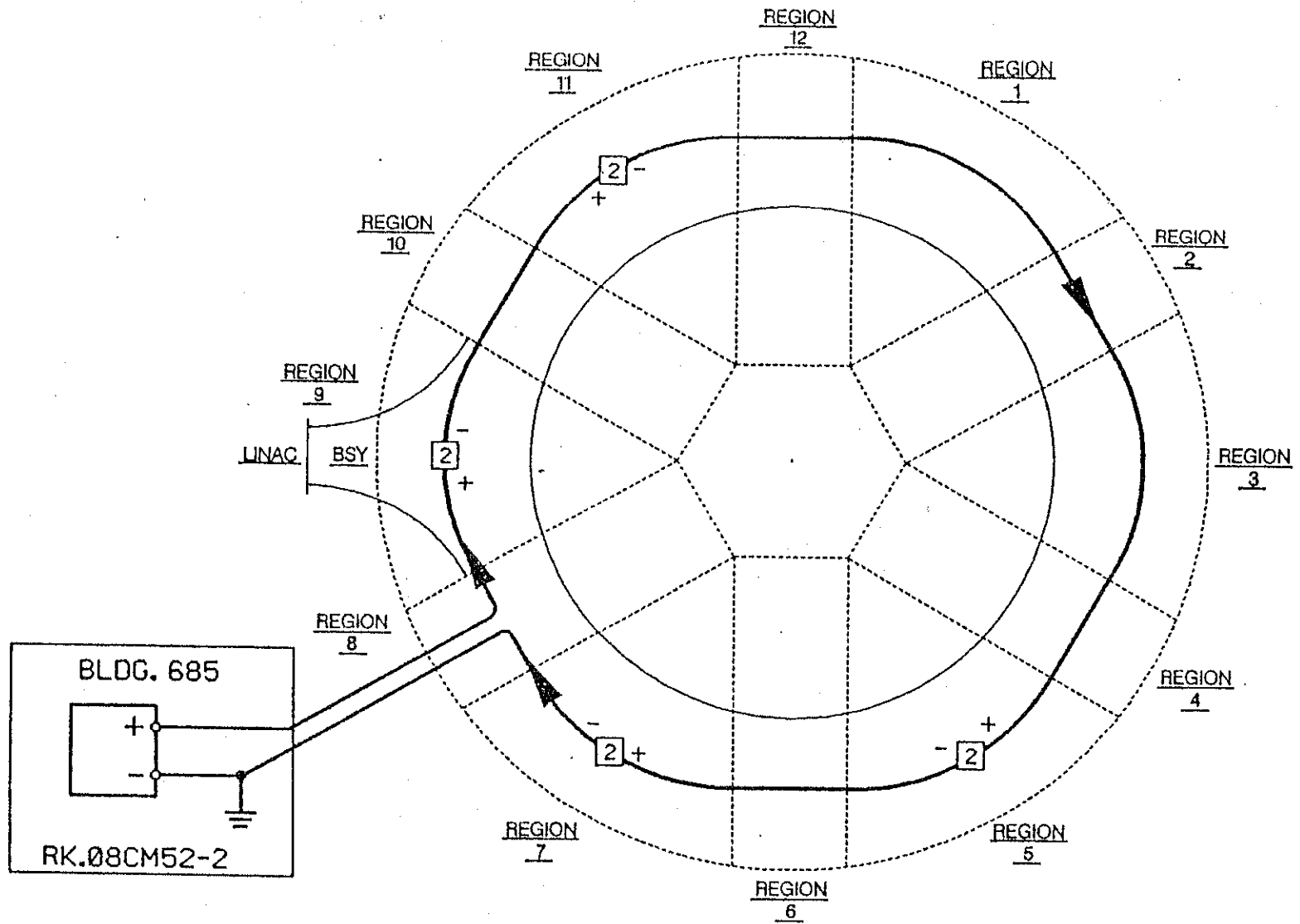


HER QDS2E

WATER-COOLED CABLE  
 CIRCUIT \* 11  
 CURRENT 166A  
 TOTAL \* MAGNETS : 8

MAGNET LOCATIONS

REGIONS 5, 7, 9 & 11 : CELL 3 & CELL 15

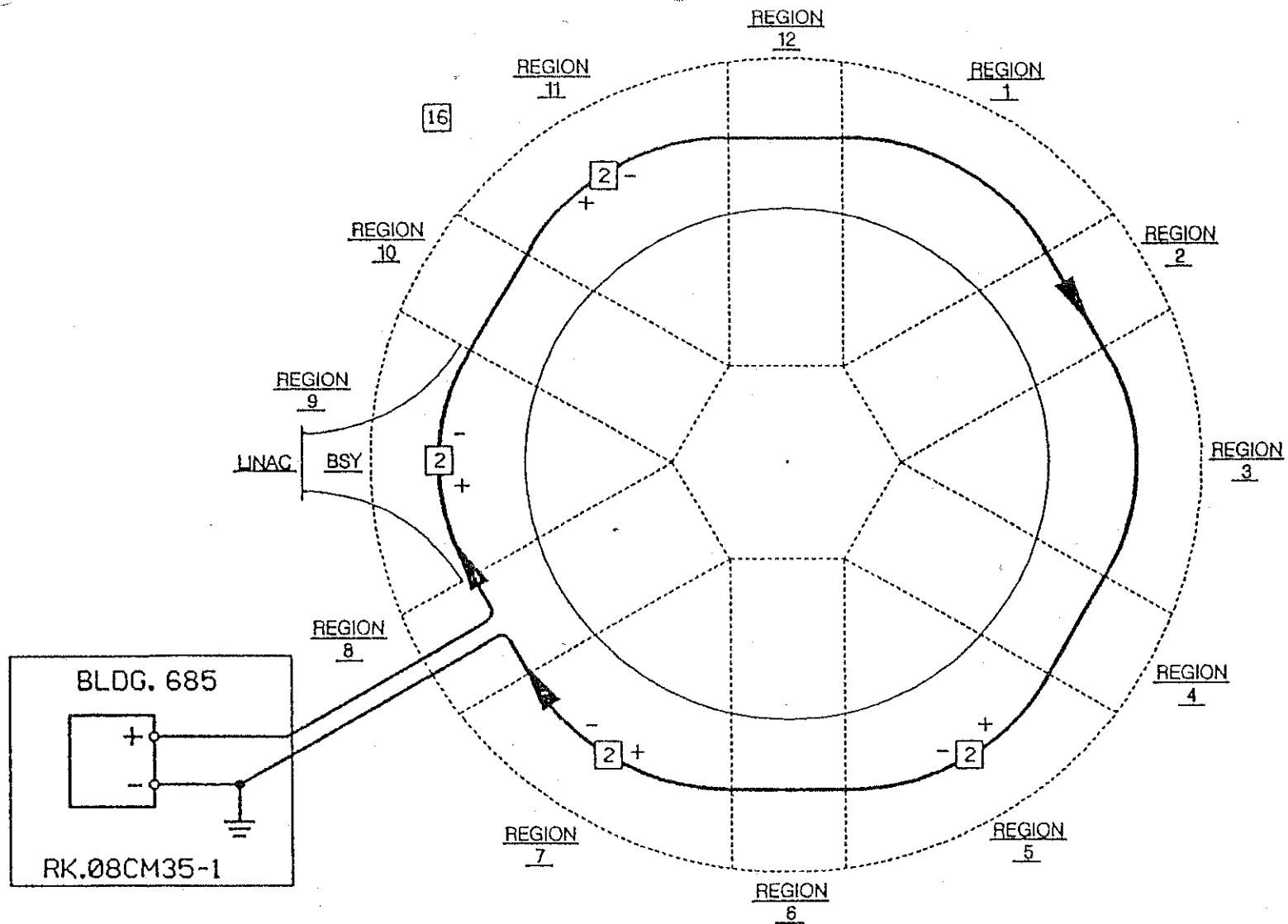


HER QDS1E

WATER-COOLED CABLE  
 CIRCUIT \* 1  
 CURRENT 196A  
 TOTAL \* MAGNETS : 8

MAGNET LOCATIONS

REGIONS 5, 7, 9 & 11 : CELL 1 & CELL 16

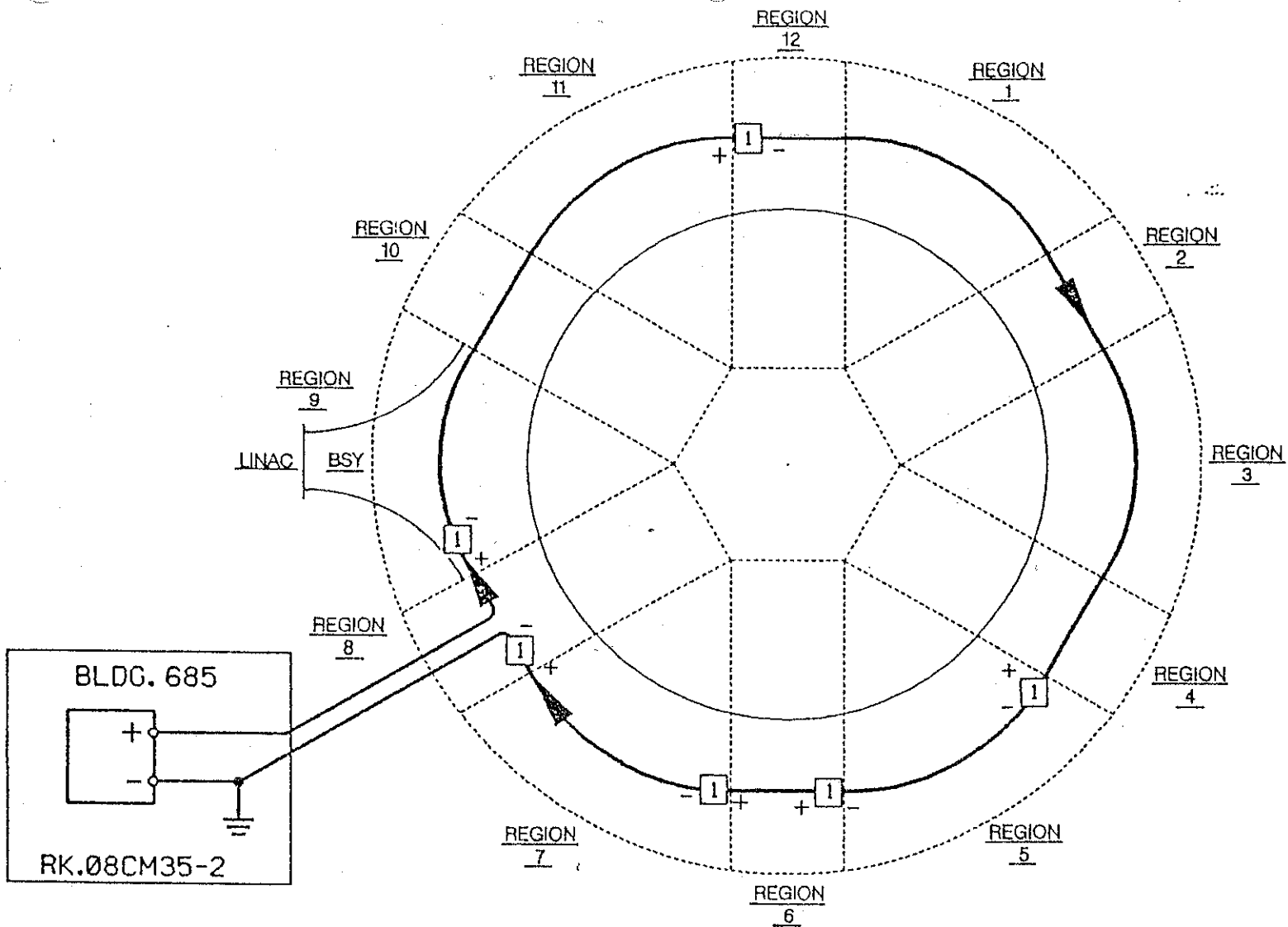


HER QFS1E

WATER-COOLED CABLE  
 CIRCUIT \* 5  
 CURRENT 188A  
 TOTAL \* MAGNETS : 8

MAGNET LOCATIONS

REGIONS 5, 7, 9 & 11 : CELL 1 & CELL 16



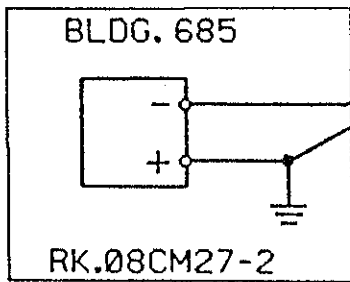
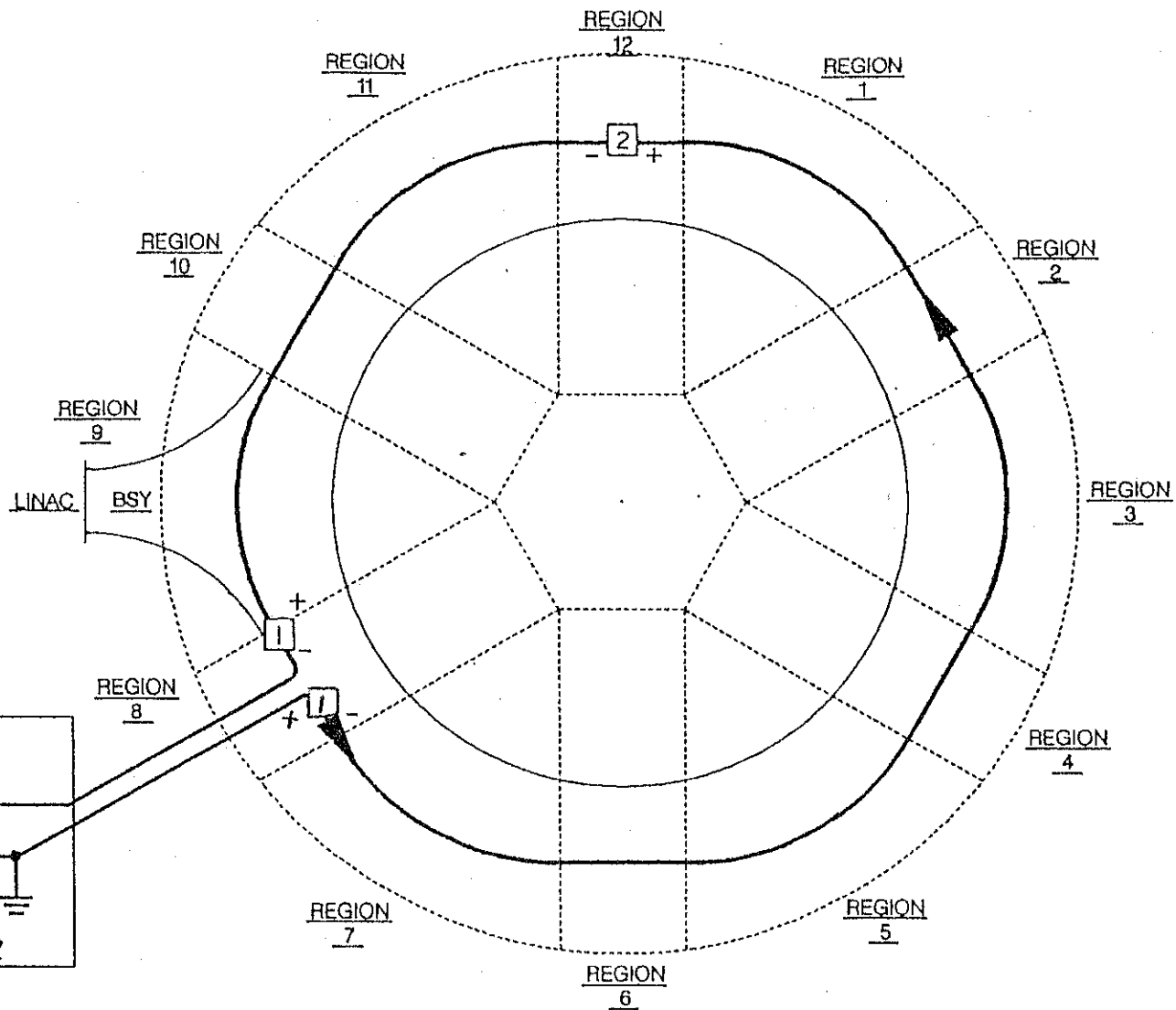
HER QDSOXE

WATER-COOLED CABLE  
 CIRCUIT \* 15  
 CURRENT 240A  
 TOTAL \* MAGNETS : 6

MAGNET LOCATIONS

REGIONS 5, 6, 7, 8, 9 & 12 : CELL 1 - 1 MAGNET

SCA:  
 ST

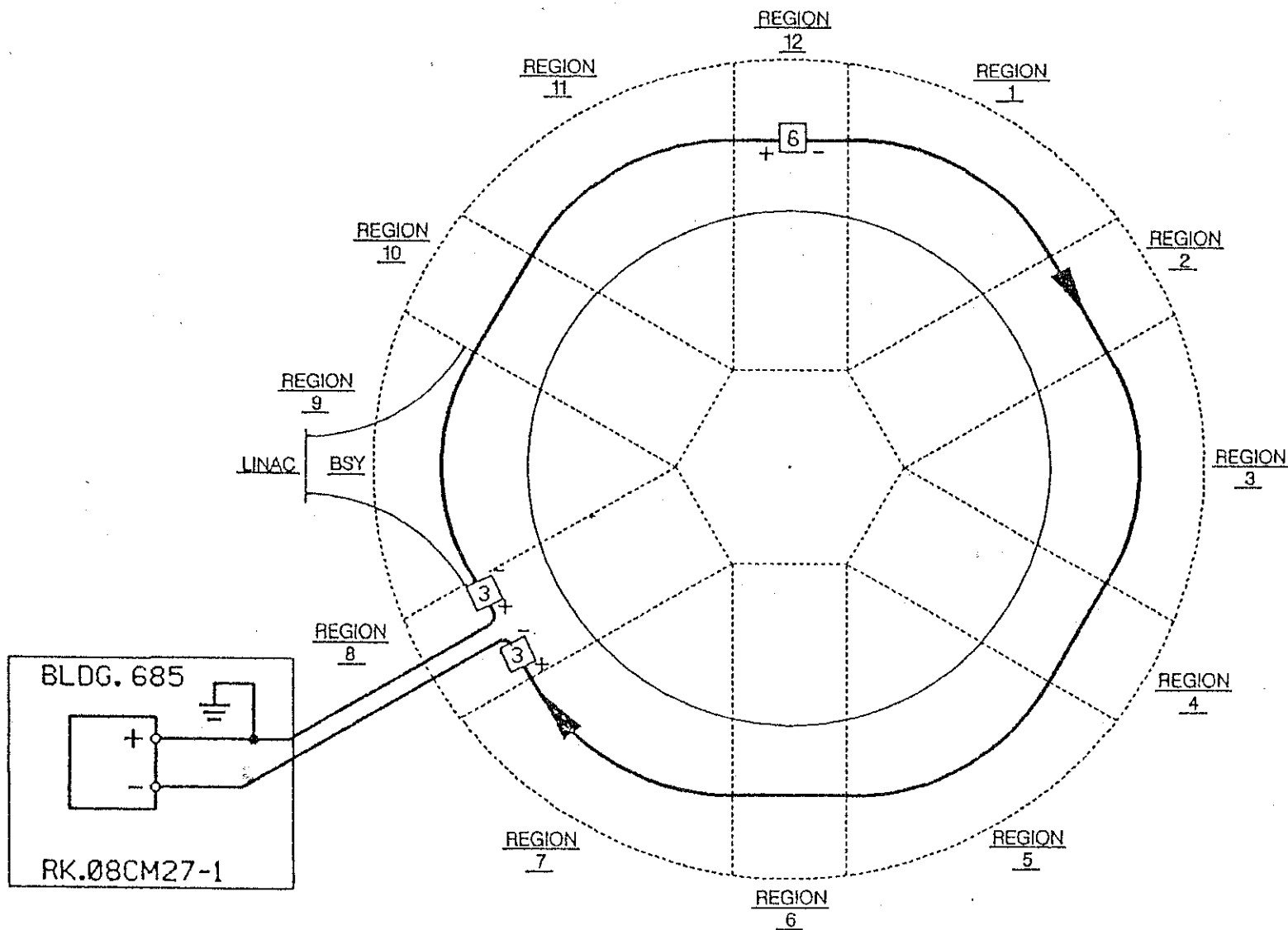


### HER QDRF 4

CABLE : 350 MCM, AIR-COOLED  
 CIRCUIT \* 35  
 CURRENT 132A  
 TOTAL \* MAGNETS : 4

### MAGNET LOCATIONS

REGIONS 8 & 12 : CELL 4 - 1 MAGNET  
 CELL 8 - 1 MAGNET

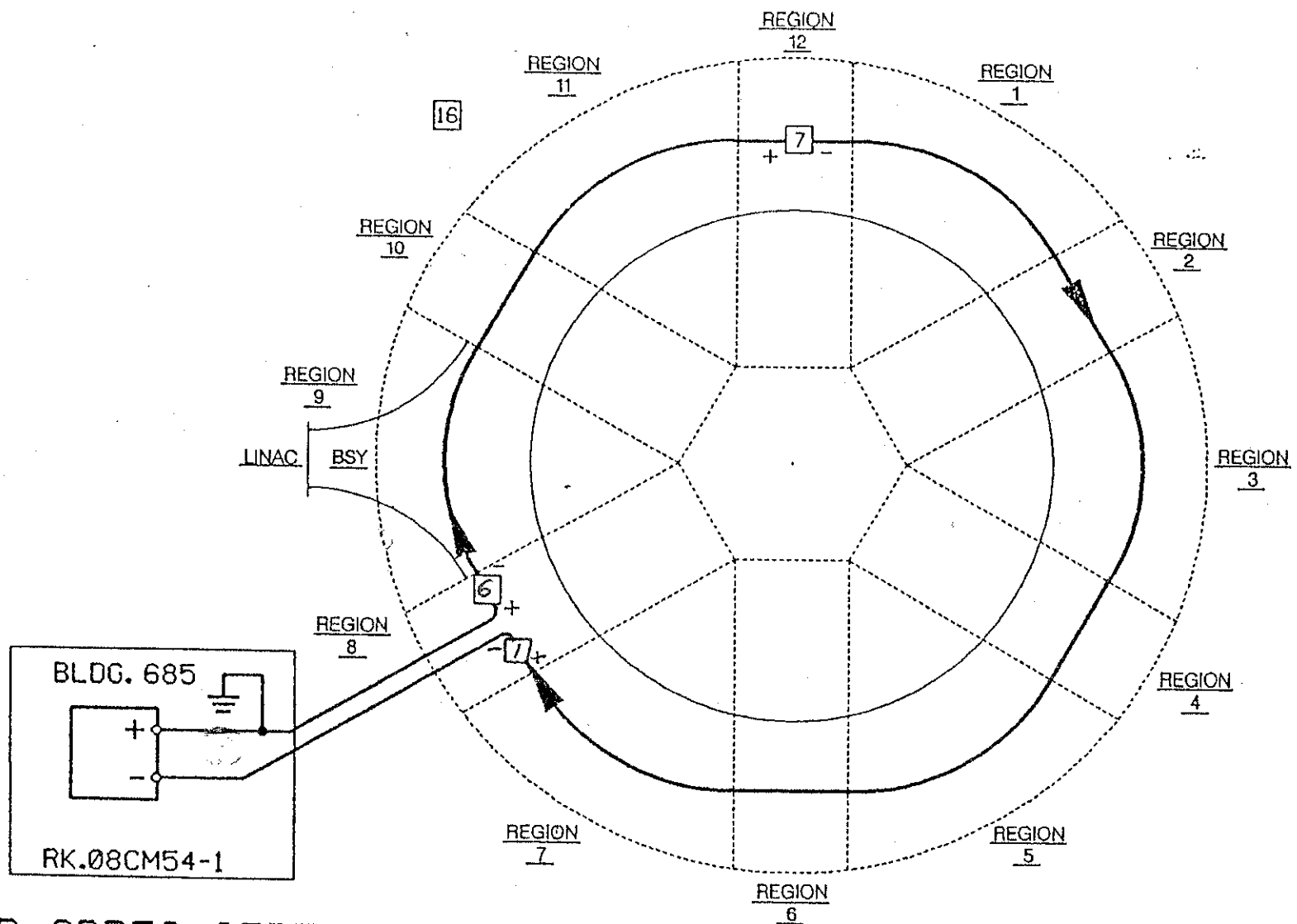


## HER QDRF/QFRF

CABLE : 350 MCM, AIR-COOLED  
 CIRCUIT # 34  
 CURRENT 125A  
 TOTAL # MAGNETS : 12

## MAGNET LOCATIONS

REGIONS 8 & 12 : CELL 2 - 1 MAGNET  
 CELL 3 - 2 MAGNETS  
 CELL 8 - 1 MAGNET  
 CELL 9 - 2 MAGNETS



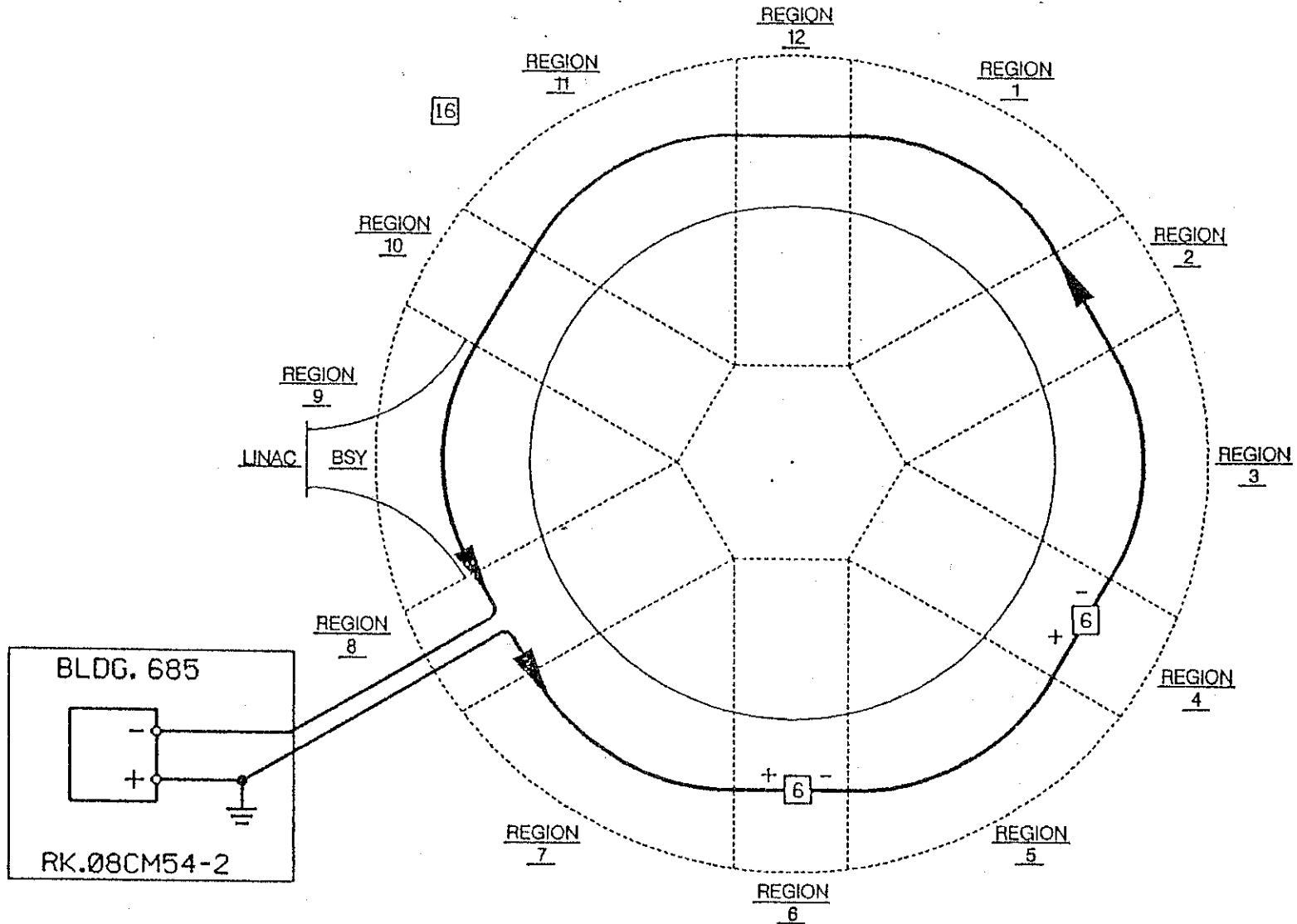
HER QDRFC/QFRFC

350 MCM AIR-COOLED CABLE  
 CIRCUIT \* 32  
 CURRENT 154A  
 TOTAL \* MAGNETS : 14

MAGNET LOCATIONS

REGIONS 8 & 12 : CELL 4 - 1 MAGNET  
 CELL 5 - 2 MAGNETS  
 CELL 6 - 2 MAGNETS  
 CELL 7 - 2 MAGNETS



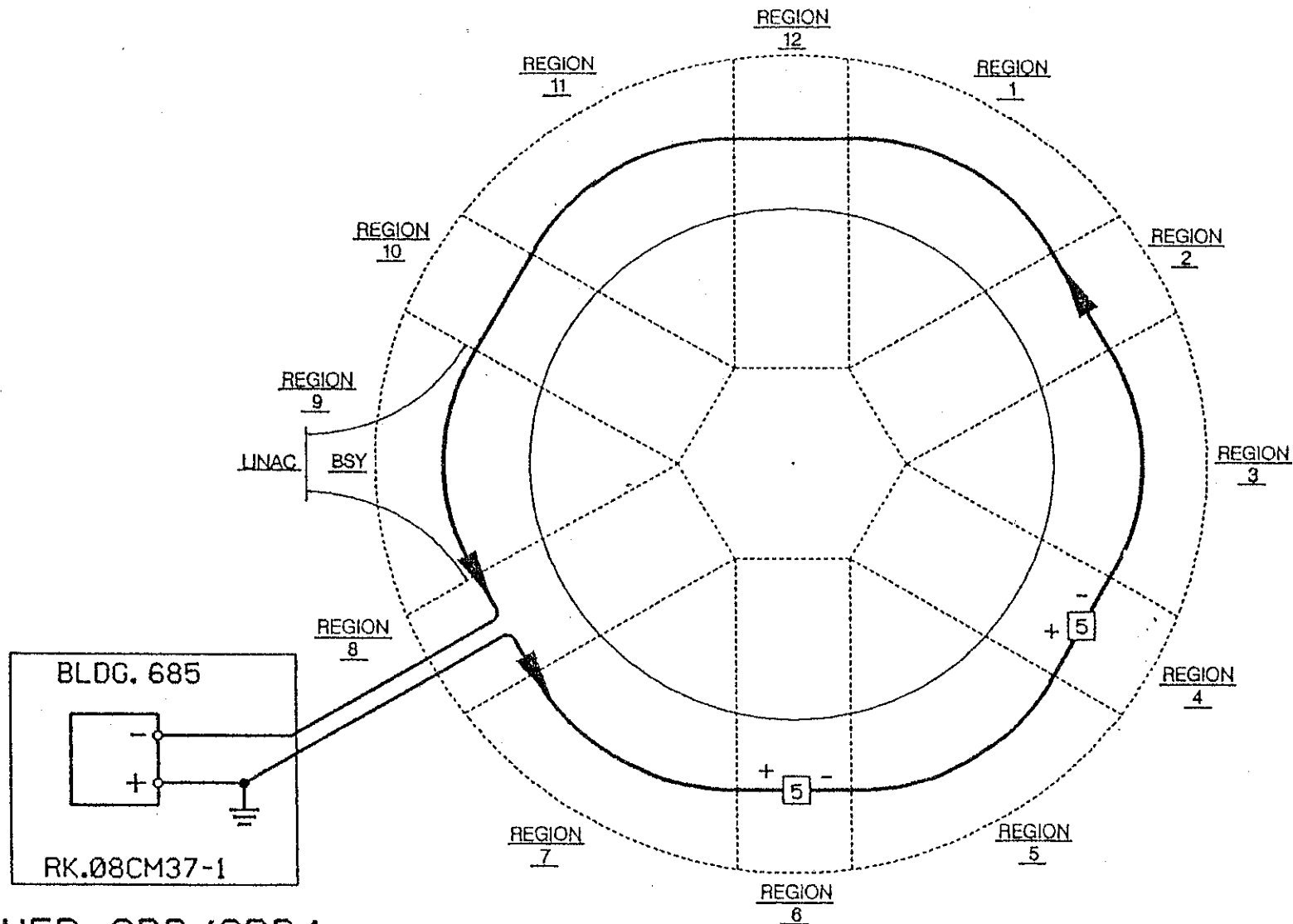


## HER QFP/QFP5

WATER-COOLED CABLE  
 CIRCUIT \* 16  
 CURRENT 215A  
 TOTAL # MAGNETS : 12

## MAGNET LOCATIONS

REGIONS 4 & 6 : CELL 3 - 1 MAGNET  
 CELL 4 - 1 MAGNET  
 CELL 5 - 1 MAGNET  
 CELL 6 - 1 MAGNET  
 CELL 7 - 1 MAGNET  
 CELL 8 - 1 MAGNET



## HER QDP/QDP4

WATER-COOLED CABLE

CIRCUIT \* 6

CURRENT 226A

TOTAL \* MAGNETS : 10

## MAGNET LOCATIONS

REGIONS 4 & 6 : CELL 4 - 1 MAGNET  
 CELL 5 - 1 MAGNET  
 CELL 6 - 1 MAGNET  
 CELL 7 - 1 MAGNET  
 CELL 8 - 1 MAGNET